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A
NEW AND COMPLETE
Set of Astrological Tables,

FOR FINDING THE

DECLINATION, RIGHT ASCENSION, ASCENSIONAL DIFFERENCE, & CREPUSCULINE ARCS,

WITH A TABLE OF ASCENSIONAL DIFFERENCES SUITED TO
THE POLAR ELEVATION OF LONDON, 51° 32′ NORTH,

For finding the Semiarcs and Oblique Ascension for that Latitude, and

A NEW TABLE OF HOUSES,

FOR THE SAME LATITUDE,

CALCULATED BY OBLIQUE ASCENSION FOR THE PURPOSE OF ERECTING
FIGURES,
WHERE THE EAST AND WEST ANGLES ARE
CORRECTED CONFORMABLY TO THE PRESENT ECLIPTICAL DIFFERENCE.

The whole adapted to the Ecliptical Obliquity of 23° 28′, *and requisite*
for bringing up Directions, by computing the

OBLIQUE ASCENSION OR DESCENSION, SEMIARCS, HORARY TIME, &c.
OF ANY POINT IN THE HEAVENS.

By JAMES WILSON, Esq. *Philomath.*
Author of the Complete Dictionary of Astrology.

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SHERWOOD, NEELY, AND JONES, PATERNOSTER-ROW, AND
BY ALL OTHER BOOKSELLERS.—1820.

PREFACE.

A New set of Tables for finding the Declination, adapted to the present ecliptical obliquity of 23° 28′, has been long a *desideratum* in astrology; those generally used being calculated for years back, when the ecliptical angle was 23° 32′, making a difference in the solstitial points of about 7′. This, of course, must render every calculation depending on the declination manifestly wrong, and all directions to zodiacal parallels quite uncertain. In the Right Ascensions the difference is unimportant, but it materially alters the Oblique Ascensions, from the change in the ascensional difference, which is founded upon the declination.

I have therefore given complete Tables of Ascensional Difference for the latitude of London, suited to the present ecliptical angle, in preference to tables of oblique ascension, as they will answer two purposes, in finding both the oblique ascensions and the semi arcs.

I have also given a New Table of Houses for the latitude of London, corrected in a similar way, whereby the east and west angles will be found more correctly than in any of the former ones; for, although those angles may always be found by oblique ascension or descension, yet this operation is seldom resorted to in cases of Horary Questions, although nothing is more essential than the correctness of the angles. It is, probably, superfluous to mention, that a full explanation of the nature of these Tables and the method of using them is contained in the Dictionary of Astrology.

It is with the most heartfelt satisfaction I have to announce to my readers the Triumph of Truth over prejudice; exemplified in the victory gained by Astrology over her feeble adversaries, in the person of their redoubted champion, the Editor of the Monthly Magazine:—a victory which gives additional demonstration of the force of the axiom, *Magna est Veritas et prævalibit,* and of which I can

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the more freely boast, as it was not achieved by me, but by the united powers of truth and demonstration.

In the Monthly Magazine for December, 1819, the following paragraph was inserted :

" A Dictionary of Astrology has been published by Mr. Wilson, who, believing in the possibility of predicting the events of men's lives, seeks to raise this exploded art once more among the liberal sciences. On his own principles, this is a respectable work ; that is, it is well written, and exhibits a body of what among adepts are considered as sound doctrines. We must, however, again enter our protest against this art, which misleads merely because it has been associated with the sublime objects in the heavens ; whereas, any other set of signs, as marbles knocked against a wall, or cards dealt in a particular manner, which have had predetermined qualities assigned to them, would answer the very same purposes ; as the planets and the signs, whatever they be, merely determine the prognosticator ; and there being a certain chance that every possible event may happen, some necessarily happen as foretold, and in this coincidence consists the delusion of all these arts. If, for example, a prognosticator who is governed by the positions and assigned qualities of any indicators, as marbles, cards, or planets, should refer any variations of those indicators to the case of a young woman of twenty, who desires to know whether she will be married within the year, we know that it is as 1 to 10 that she may be married, and as 10 to 1 that she may not ; consequently, if the indications are in the affirmative, it is as 1 to 10 that the prognosticator is right, or that he will be right once in ten times : but if the indications are negative, then in nine cases out of ten will the prognosticator be right. At the same time it is evident, that there is no connexion whatever between the indicators and the event as cause and effect, but the indicators serve merely to guide and deceive the prognosticator, whose prediction is true or false according to the independant arithmetical chance that the event enquired about may or may not happen." *Monthly Mag. for December*, 1819.

To which I returned the following reply, adding in the inside of the envelope :—" I trust to your candour for the insertion of this in your Magazine, and feel I shall not be disappointed."—

To the Editor of the Monthly Magazine,

Sir, 7th Dec. 1819.

The handsome manner in which you have noticed my Dictionary of Astrology in your Magazine for December, as "a work well written," merits acknowledgment,—it is all I could wish or expect. You have a right to object to the science itself, if it does not coincide with your ideas of truth; and had I been in the habit of taking assertion for proof, I might have profited by your observations. As it is, I trust you will excuse my candour when I state, that in my opinion you are essentially unacquainted with the principles of the science you condemn, particularly as you seem to confound the Genethliacal and Horary departments together, than which no two sciences can be more distinct in nature and principle.

Genethliacal Astrology is founded upon this incontrovertible truth, that every animal is an integral part of the Mass or Globe, to which it belongs and adheres; consequently it is subject to the laws by which such Mass is governed, and as the luminaries have a manifest effect upon our Globe, varying according to their respective positions, every component part of the Globe must be equally subject to their operations, which differ in different substances, as such substances are modified or organized. But although the effects of the luminaries are the only ones evident to our senses, it would be very unreasonable to suppose them to be the only bodies to whose influences we are subject. As a mountain changes the direction of the plumb-line, so every planet, however remote or minute, operates upon every material substance in proportion to its magnitude or proximity.

Bodies seem more susceptible of planetary influence from their fluidity; hence the water is more powerfully affected than the land, and doubtless an embryo is more susceptible of planetary impression than the fœtus when it is completely formed and becomes more solid; nevertheless, the moment of birth must be an important period, for then the animal is disengaged from the maternal medium through which it had hitherto received every impression and plunged into an atmosphere, whose qualities are different because unmixed and unmodified by any intermediate substance, and in this state it is absorbed and inhaled by the animal, and is productive of new impressions and effects according to the qualities it contains. Should this event take place at the change or full of the Moon, when the luminaries act in concert upon the water, they must operate upon the fluids of such animal in an equal ratio, and contract or distend the vessels which contain them. If the Moon be in her dichotomes, her power will differ as much in the animal as in the Globe of which it is a part; if at the fourth day before the change (a period at which she most powerfully affects the atmosphere), or at the third day after, or at the first quadrate lunation, or if the Sun be angular, or in any other condition of the atmosphere, no matter from what cause produced, the animal must evidently receive corresponding impressions, according to the nature, and peculiar qualities of the fluid by which it is surrounded and impregnated. Hence arise the infinity of forms, intellects, and propensities in all animals, whether rational or irrational, varying with the circumstances under which they were produced, and again varying according to the nature of the substances of which they are composed, which were in their time the result of other mixtures arising from other celestial positions. Hence the offspring of different parents, although born at the same instant of time, differ essentially from each other because they are formed from different substances, and have had impressions communicated to them through different mediums; hence children of the same parents differ when born at different periods, because although their substances are the same, there is no resemblance in their Horoscopes; and hence twins resemble each other because they have the same origin, and the same ambient.

What resemblance these doctrines can have to cards dealt out, or marbles knocked against a wall, I shall leave others to decide; but I conceive you must by them allude to the horary department of the science, where the planets are not considered as causes but as symbols for the purpose of divination. No two sciences on earth can differ more in essence and principle than Horary and Genethliacal Astrology, the latter being founded on the known and obvious laws of nature, whereas the former is merely a doctrine of sympathies, equally true with the latter, but, owing to prejudice and want of observation, not so clearly perceptible. Here I do not deny, that any system founded on sympathy, provided its variations are sufficiently numerous, and its principles are well understood, may be fully depended upon, whether it be founded on marbles, cards, or any thing else. It is not, however, quite so probable that any young woman of twenty would seriously ask so silly a question as "whether she would be married that year?" except she had reason from the coincidence of other circumstances to expect that such an event was likely to happen; nor would any artist but an impostor attempt to answer it until he knew she had weightier reasons than mere unmeaning ignorance or idleness. And if her reasons were good, it would not be as 1 to 10, nor probably as 1 to 2, that the event might happen, and I am certain, that if the artist was skilful and the figure sufficiently radical to warrant him in giving a positive answer, that it would be as 10 to 1 that he would be right.

To say that "it is evident that there is no connexion whatever between the indicator and the event" is merely begging the question, nor have I yet learnt from even your own admission, that you have practised the Horary part of the science to that extent sufficient to qualify you to judge or decide in this matter, and "none should condemn who do not understand."

Of the truth of this species of divination I have given, I think, convincing proof in the few examples laid down, provided my *word may be taken.* Though few, they were all I possessed, except one or two whose events had not yet arrived, and, I assure you, I did not select them for the occasion. In the Genethliacal part I have given sufficient proof of its verity in the Nativity, Marriage and Death of Her Royal Highness the Princess Charlotte of Wales and Saxe Cobourg; three comparatively recent events of so public a nature that all have an opportunity of ascertaining their truth. This is worth a thousand obscure Nativities, of which any thing can be *made* or *said.* Here can be no mistake nor delusion, but what may be instantly detected. These are not *assertions,* but *proofs.* This is not *begging* the Question but *taking* it. I have altered no rule, changed no system,—I took the science as I found it, and the result has been such as to establish its truth by proofs not in the power of any of the present generation to invalidate, and as to the next,—Reason is advancing with rapid strides, and they will be wiser.

I remain your obt. humble servt.

J. Wilson.

The reply I received was as follows:

"Sir,

"If you gain any point by the admission, I will state in the next Number of the M. Mag. that my arguments are directed against every principle of prognostication, and apply equally to Horary Questions and Genethliacal Astrology. There are certain chances that every possible event may happen, and those independant chances often coincide with the prognostication. But the paragraph in the Magazine best explains my theory. *Any answer to this theory I will admit*, but I cannot give place, at this time of day, to a formal defence of principles, all of which are assumed and remain to be proved; while, as cause and effect, no influences affecting an embryo can at the same instant determine future events by the measures adopted by Astrologers.

"I am, Sir, your obdt. servt.
"R. Philips."

"*Bridge Street, Dec. 7th*, 1819."

I must here confess, that when I pretended to "feel I should not be disappointed," I did not speak ingenuously; for I felt quite the reverse. Although I really have a respect for the learned Editor, I did not conceive him to be more than man, and yet he must have been such to have recorded his own disgrace in his own Magazine. But it was not my business by unnecessary irritation to furnish him with any excuse but the true one for not inserting the article. The grand secret of the whole is as follows: The learned Editor had in an evil hour commenced a war of opinions with an author who had been dead about a century before, and as we all know that "dead men tell no tales," we may reasonably conclude they as seldom write paragraphs in their own defence, of course both the plea and rejoinder lay in the same person, who having no adversary but himself to encounter, no proofs but his own to invalidate, no arguments but his own to oppose, contrived to carry on the war very adroitly without fear of an attack or defeat, and consequently without being at the trouble of providing the means of defence to repel either. In all other cases, where there are living authors to contend with, an antagonist must know something of the point in dispute and the principles of the science he attempts to condemn. In astronomy, for instance, he would make himself well acquainted with the doctrine of parallax before he ventured to deny the present estimate of planetary distances; or were he inclined to establish any other system in place of the Copernican, he would feel the necessity of studying the principles of the latter before he attempted to confute them. But in arguments against Astrology, these little formalities are usually dispensed with: the science is considered as an expiring lion, whom any ass may kick with impunity. No one attacks its principles, for they do not understand them. Astrology is false—because it cannot be true, because every body disbelieves it, because it is seldom heard of. No one studies it now—none but fools would *give it a thought.* No person of *sense* thinks it worth his attention, and, in short, because of a thousand more reasons containing no reason at all,—where the place of argument is filled by an *ipse dixit,* and that of proof by mere assertion. Declarations of this kind certainly do not impress us with a notion that those who make them are *persons of sense*, and it is a very natural question to ask them whether they themselves know any thing of the science? The answer will mostly be a decided negative, for which they will assign this reason, that they could see nothing in it worth studying (which indeed would be the case when they sought for nothing.) Just at this critical moment up starts the Editor of the Monthly Magazine, affirming he knows that "a □ of ♂ and ☿, or a △ of ♄ and ♃, is a Square aspect of Mars and Mercury, or a Trine of Saturn and Jupiter"!!! *mirabile dictu.* Aye, he continues, and I know too that "when they happen they must operate on the whole Earth and its Inhabitants alike." I really do not know where the σῦς' Αθηνᾶν could be introduced with better effect than just here; but the most charitable way would be to put into his hand the works of some author on genitures, and to stay by him until he could comprehend the meaning of Radical Positions, Directions, Ingresses, Transits and Lunations,—we should soon have a new edition of the "Walk to Kew."

I must here leave to the reader's imagination the task of presenting him with a correct idea of an author in this unprovided state,—destitute of all means of defence, yet exulting over the ashes of an author in fancied security because he is dead and incapable of returning the compliment. I say I must leave the reader to conceive the surprise and dismay of this unarmed Hector, should the other, or some one for him, suddenly and of course unexpectedly start up arrayed in all the armour of ratiocination and of proof and defy him to the combat. Natural abilities would be out of the question, and even knowledge in a great degree, for if he knew ever so little of the science, he must of course possess an advantage over one who knows nothing,—who instead of learning the science before he censured it, had employed his time in censuring before he had learned it: he could only retire to one post of security, namely, his Magazine. There no Knight can enter the lists without his permission, and there have I been denied the privilege of self-defence, the motive for which denial the reader will by this time very clearly perceive. In what way the learned Editor supposed I or any one could "answer his Theory" without a "defence," I am at a loss to conjecture; for with me an "answer" and a "defence" are synonimous terms: at all events, an "answer" that is not a defence is not worth a penny, and I am certain that a "defence" is at all times a complete answer. But the insertion of the word "formal" before defence is an acute little specimen of ingenuity. To say that he could not give place to a "defence of principles" which he had attacked without comprehending, carried with it rather an air of illiberality, and therefore the word "formal" was pre-inserted to impress the reader with an idea that the "defence" was not quite what is generally implied by that word, but that it had some additional feature or character belonging to it which rendered it inadmissible. The word was not the most happy when applied to my productions, the very nature of which proves that I despise formality of every description. The rejection however of this "formal defence" was the strongest proof of its being a more complete "answer to the Theory" than he either expected or desired, and as to his ridiculous affectation of calling for "proof" when overwhelmed with "proof," it is like a drowning man calling for water. What does the learned Editor think of Mr. Speer, an old inhabitant of Hammersmith, who was born the same hour, married on the same day, and died the same hour with our late Sovereign. What "Proof" does he want,—what greater "Proof" can there be than this of the certainty of celestial influx? How will he in the face of such circumstances as these support his question-begging assertion, that "no Influences affecting an embryo can at the same time determine future events by the measures adopted by Astrologers." It is easy to say, that any set of "principles are all assumed." I could say that the Principles of the Copernican System,—of any science, are all assumed;" but I should find as much difficulty in proving them to be so, as the learned Editor will find, should he ever attempt to disprove the truth of Astrology—*hic labor, hoc opus est.*

I really have a respect for this gentlemen with all his faults, nor do I conceive that any one will have reason to doubt the sincerity of this declaration, when they peruse his article attentively to which I have alluded, and in which he has spoken of my work in the abstract with the greatest liberality. But I know these remarks, severe as they are, will be beneficial to him in the end. He knows nothing of astrology beyond the astronomical or mere mechanical part, and he will now learn, I hope, to confine himself closer to his *last*, and not range beyond the bounds of his actual experience. No degree of learning, however extensive, can qualify its possessor to dictate on points which he has never thoroughly investigated, and that he is not master of the subject is evident from his declining to insert our correspondence. "This time of day" and all times are equally proper for detecting and exposing an error, and the learned Editor would have coincided fully in this opinion had he found himself properly qualified for such an undertaking. As I observed before, I excuse his want of liberality in refusing to insert my letter, because I know the conflict between candour and shame must have been a severe one, but I cannot so easily excuse the Editors of two other Magazines, to whom I sent those letters for insertion, and who had no such motives for refusal. But these literary wolves are not fond of preying upon each other. The reason assigned by one of them was that they had given sufficient chastisement to the Monthly Magazine already, and that a controversy such as this was likely to produce would only again encrease the number of its readers. This is a tolerable fair specimen of the *vox et prœterea nihil*, and had it been given to me instead of my agent, I should have taken the liberty of assuring him that, with all his little prejudices, the Editor of the Monthly Magazine or his work either, has as little to apprehend from his puny efforts as Astrology has to fear from his.

I have now to announce a much higher gratification, in the prospect of a still more decisive and speedy triumph of truth over prejudice, which I have reason to anticipate in the numerous applications from the most respectable libraries, and from most or all of the universities in the united kingdom, for copies of the Dictionary of Astrology, among which are the Bodleian Library, the Advocates' Library at Edinburgh, Sion College, the University of Cambridge, Trinity College, the colleges of Glasgow, Edinburgh, Aberdeen, &c. &c. This is as it should be;

for although no more real discoveries can be expected from the labour of these learned societies than from those of any corresponding number of intelligent individuals, yet, amongst mankind, a name is every thing, and when once the Science of Astrology is known to be sanctioned at the Universities it will soon become popular all over the kingdom. I do not quote this as an argument in favour of my Dictionary (for in all probability they sent for it without knowing what it contained), but as a proof that Truth is every where extending her influence; that astrology must have been for some time past a favourite study in these seats of learning; and that they were anxious to acquire every degree of information that could assist them in their researches. Thus, if it be my wish, (as the learned Editor thinks), "to raise this exploded art once more among the liberal sciences," it seems likely soon to be gratified.

North Latitude.

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13	22 50	23 50	24 50	25 50	26 50	27 50	28 50	29 48	30 48	31 48	17
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18	22 15	23 15	24 14	25 14	26 13	27 12	28 11	29 10	30 9	31 9	12
19	22 7	23 7	24 6	25 6	26 5	27 4	28 3	29 2	30 1	31 0	11
20	21 58	22 58	23 57	24 56	25 55	26 54	27 53	28 52	29 51	30 50	10
21	21 49	22 49	23 48	24 47	25 46	26 45	27 44	28 43	29 42	30 41	9
22	21 40	22 40	23 39	24 33	25 37	26 36	27 35	28 35	29 34	30 33	8
23	21 30	22 30	23 29	24 28	25 27	26 26	27 25	28 25	29 24	30 23	7
24	21 20	22 19	23 18	24 17	25 16	26 15	27 14	28 13	29 12	30 11	6
25	21 9	22 8	23 7	24 6	25 5	26 4	27 3	28 2	29 1	30 0	5
26	20 58	21 56	22 55	23 54	24 53	25 52	26 51	27 50	28 49	29 48	4
27	20 47	21 44	22 43	23 42	24 41	25 40	26 39	27 38	28 37	29 36	3
28	20 35	21 32	22 31	23 30	24 29	25 28	26 26	27 25	28 24	29 23	2
29	20 23	21 20	22 19	23 18	24 17	25 16	26 14	27 13	28 12	29 11	1
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North Latitude.

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4	19	17	20	14	21	13	22	11	23	9	24	8	25	6	26	4	27	2	28	0	26
5	19	2	20	0	20	59	21	57	22	55	23	53	24	51	25	49	26	47	27	45	25
6	18	48	19	46	20	44	21	42	22	40	23	38	24	36	25	34	26	32	27	30	24
7	18	33	19	31	20	29	21	27	22	25	23	23	24	21	25	19	26	17	27	15	23
8	18	17	19	15	20	13	21	11	22	9	23	7	24	5	25	3	26	1	26	59	22
9	18	2	18	59	19	57	20	55	21	53	22	51	23	49	24	46	25	44	26	42	21
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14	16	39	17	35	18	33	19	30	20	27	21	25	22	22	23	19	24	16	25	13	16
15	16	21	17	18	18	15	19	12	20	9	21	7	22	4	23	1	23	58	24	55	15
16	16	3	17	0	17	57	18	54	19	51	20	49	21	46	22	43	23	40	24	37	14
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19	15	9	16	4	17	1	17	58	18	55	19	52	20	49	21	46	22	43	23	40	11
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21	14	31	15	26	16	22	17	19	18	16	19	13	20	10	21	7	22	3	23	0	9
22	14	11	15	7	16	3	17	0	17	56	18	53	19	50	20	47	21	43	22	40	8
23	13	52	14	47	15	43	16	40	17	36	18	33	19	29	20	26	21	22	22	18	7
24	13	32	14	27	15	23	16	19	17	15	18	12	19	8	20	5	21	1	21	57	6
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26	12	52	13	47	14	43	15	39	16	35	17	32	18	28	19	24	20	20	21	16	4
27	12	32	13	27	14	23	15	19	16	15	17	12	18	8	19	4	20	0	20	56	3
28	12	11	13	6	14	2	14	58	15	54	16	51	17	47	18	43	19	39	20	35	2
29	11	50	12	45	13	41	14	37	15	33	16	30	17	26	18	22	19	18	20	14	1
30	11	29	12	24	13	20	14	16	15	12	16	8	17	4	18	0	18	56	19	52	0
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North Latitude.

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0	11° 29′	12° 24′	13° 20′	14° 16′	15° 12′	16° 8′	17° 4′	18° 0′	18° 56′	19° 52′	30
1	11 8	12 4	13 0	13 56	14 51	15 47	16 43	17 39	18 35	19 31	29
2	10 46	11 42	12 38	13 33	14 29	15 25	16 21	17 17	18 13	19 9	28
3	10 25	11 21	12 17	13 12	14 8	15 4	16 0	16 56	17 52	18 48	27
4	10 3	10 59	11 55	12 51	13 47	14 43	15 39	16 35	17 31	18 27	26
5	9 41	10 39	11 35	12 30	13 26	14 22	15 18	16 14	17 9	18 4	25
6	9 19	10 15	11 11	12 6	13 2	13 58	14 54	15 50	16 45	17 40	24
7	8 57	9 53	10 49	11 44	12 40	13 35	14 31	15 26	16 21	17 16	23
8	8 35	9 31	10 27	11 22	12 18	13 13	14 9	15 4	15 59	16 54	22
9	8 12	9 8	10 4	10 59	11 54	12 49	13 44	14 39	15 34	16 30	21
10	7 50	8 46	9 41	10 36	11 31	12 26	13 21	14 16	15 11	16 6	20
11	7 27	8 22	9 17	10 12	11 7	12 2	12 57	13 52	14 47	15 42	19
12	7 5	8 0	8 55	9 50	10 45	11 40	12 35	13 30	14 25	15 20	18
13	6 41	7 36	8 31	9 26	10 21	11 16	12 11	13 6	14 1	14 56	17
14	6 18	7 13	8 8	9 3	9 58	10 53	11 48	12 43	13 38	14 33	16
15	5 55	6 51	7 46	8 41	9 36	10 31	11 26	12 21	13 16	14 11	15
16	5 32	6 28	7 23	8 18	9 13	10 8	11 3	11 58	12 53	13 48	14
17	5 8	6 4	6 59	7 54	8 49	9 44	10 39	11 34	12 29	13 24	13
18	4 45	5 41	6 36	7 31	8 26	9 21	10 16	11 11	12 6	13 1	12
19	4 21	5 17	6 12	7 7	8 2	8 57	9 52	10 47	11 42	12 37	11
20	3 58	4 54	5 49	6 44	7 39	8 34	9 29	10 24	11 19	12 14	10
21	3 34	4 30	5 25	6 20	7 15	8 10	9 5	10 0	10 55	11 50	9
22	3 11	4 7	5 2	5 57	6 52	7 47	8 42	9 37	10 32	11 27	8
23	2 47	3 43	4 38	5 33	6 28	7 23	8 18	9 13	10 8	11 3	7
24	2 23	3 19	4 14	5 9	6 4	6 59	7 54	8 49	9 44	10 39	6
25	2 0	2 55	3 50	4 45	5 40	6 35	7 30	8 25	9 20	10 15	5
26	1 36	2 31	3 26	4 21	5 16	6 11	7 6	8 1	8 56	9 51	4
27	1 12	2 7	3 2	3 57	4 52	5 47	6 42	7 37	8 32	9 27	3
28	0 48	1 48	2 43	3 38	4 33	5 23	6 18	7 13	8 8	9 3	2
29	0 24	1 19	2 14	3 9	4 4	4 59	5 54	6 49	7 44	8 39	1
30	0 0	0 55	1 50	2 45	3 40	4 35	5 30	6 25	7 20	8 15	0
	0	1	2	3	4	5	6	7	8	9	♈

NORTH LATITUDE.

	♎	0	1	2	3	4	5	6	7	8	9		
		° '	° '	° '	° '	° '	° '	° '	° '	° '	° '		
	0	0s 0	0 55	1 50	2 45	3 40	4 35	5 30	6 25	7 20	8 15	30	
S.	1	0 24	0 31	1 27	2 21	3 16	4 11	5 6	6 1	6 56	7 51	29	
	2	0 48	0 7	1 3	1 57	2 52	3 47	4 42	5 37	6 32	7 27	28	
	3	1 12	0 17	0 39	1 34	2 29	3 24	4 19	5 14	6 9	7 4	27	
	4	1 36	0 41	0 15	1 10	2 5	3 0	3 55	4 50	5 45	6 40	26	
	5	2 0	1 5	0 10	0 46	1 41	2 36	3 31	4 26	5 21	6 16	25	
	6	2 23	1 28	0 33	0 22	1 17	2 12	3 7	4 2	4 57	5 52	24	
	7	2 47	1 52	0 57	0 2	0 53	1 48	2 43	3 38	4 33	5 28	23	
	8	3 11	2 16	1 21	0 26	0 29	1 25	2 20	3 15	4 10	5 5	22	
	9	3 34	2 39	1 44	0 49	0 6	1 2	1 57	2 52	3 47	4 42	21	
	10	3 58	3 3	2 8	1 13	0 18	0 38	1 33	2 28	3 23	4 18	20	
	11	4 21	3 26	2 31	1 36	0 41	0 14	1 9	2 4	3 0	3 55	19	
	12	4 45	3 50	2 55	2 0	1 5	0 10	0 46	1 41	2 37	3 33	18	
	13	5 8	4 13	3 18	2 23	1 28	0 33	0 24	1 18	2 15	3 10	17	
	14	5 32	4 37	3 42	2 46	1 51	0 56	0 0	0 55	1 51	2 47	16	
	15	5 55	5 0	4 5	3 9	2 14	1 18	0 23	0 32	1 28	2 23	15	
	16	6 18	5 23	4 27	3 31	2 36	1 40	0 45	0 9	1 5	2 0	14	
	17	6 41	5 45	4 50	3 54	2 59	2 3	1 8	0 13	0 42	1 37	13	
	18	7 5	6 9	5 14	4 18	3 23	2 27	1 32	0 36	0 19	1 15	12	
	19	7 27	6 31	5 36	4 40	3 45	2 49	1 54	0 58	0 3	0 53	11	
	20	7 50	6 54	5 58	5 2	4 6	3 10	2 15	1 19	0 24	0 31	10	N.
	21	8 12	7 16	6 20	5 24	4 28	3 32	2 37	1 41	0 46	0 N 9	9	
	22	8 35	7 39	6 43	5 47	4 51	3 56	3 0	2 4	1 9	0 14	8	S.
	23	8 57	8 1	7 5	6 9	5 13	4 18	3 22	2 26	1 31	0 36	7	
	24	9 19	8 23	7 27	6 31	5 35	4 40	3 45	2 49	1 54	0 58	6	
	25	9 41	8 45	7 49	6 53	5 58	5 2	4 6	3 10	2 15	1 19	5	
	26	10 3	9 7	8 11	7 15	6 19	5 24	4 28	3 32	2 36	1 40	4	
	27	10 25	9 30	8 34	7 38	6 42	5 46	4 50	3 54	2 58	2 2	3	
	28	10 46	9 51	8 55	8 1	7 4	6 8	5 12	4 16	3 20	2 24	2	
	29	11 8	10 13	9 17	8 21	7 24	6 28	5 32	4 36	3 40	2 44	1	
	30	11 29	10 33	9 37	8 41	7 44	6 48	5 52	4 56	4 0	3 4	0	
		0	1	2	3	4	5	6	7	8	9	♓	

North Latitude.

♏	0	1	2	3	4	5	6	7	8	9	
0	11° 29′	10° 33′	9° 37′	8° 41′	7° 45′	6° 49′	5° 53′	4° 57′	4° 1′	3° 5′	30
1	11 50	10 54	9 58	9 2	8 6	7 10	6 14	5 18	4 22	3 26	29
2	12 11	11 15	10 18	9 22	8 26	7 29	6 32	5 36	4 41	3 45	28
3	12 32	11 36	10 39	9 43	8 47	7 50	6 54	5 58	5 3	4 5	27
4	12 52	11 56	10 58	10 1	9 5	8 8	7 12	6 16	5 21	4 24	26
5	13 12	12 16	11 19	10 22	9 26	8 29	7 33	6 37	5 40	4 43	25
6	13 32	12 36	11 39	10 42	9 46	8 49	7 52	6 55	5 58	5 1	24
7	13 52	12 56	11 59	11 2	10 5	9 8	8 11	7 14	6 17	5 20	23
8	14 11	13 14	12 17	11 20	10 23	9 26	8 29	7 32	6 35	5 38	22
9	14 31	13 34	12 37	11 40	10 43	9 46	8 49	7 52	6 55	5 58	21
10	14 50	13 53	12 56	11 59	11 2	10 5	9 8	8 11	7 14	6 17	20
11	15 9	14 12	13 15	12 18	11 21	10 23	9 26	8 29	7 32	6 35	19
12	15 27	14 30	13 33	12 36	11 39	10 41	9 44	8 47	7 50	6 53	18
13	15 45	14 47	13 50	12 53	11 56	10 58	10 1	9 4	8 7	7 10	17
14	16 3	15 5	14 8	13 11	12 14	11 16	10 19	9 22	8 25	7 28	16
15	16 21	15 23	14 26	13 29	12 32	11 34	10 37	9 40	8 43	7 45	15
16	16 39	15 41	14 44	13 46	12 49	11 51	10 54	9 57	9 0	8 2	14
17	16 56	15 58	15 1	14 3	13 6	12 8	11 11	10 14	9 16	8 19	13
18	17 13	16 15	15 18	14 20	13 22	12 24	11 27	10 30	9 32	8 34	12
19	17 29	16 31	15 33	14 35	13 37	12 39	11 42	10 45	9 47	8 49	11
20	17 46	16 48	15 50	14 52	13 54	12 56	11 59	11 1	10 4	9 6	10
21	18 2	17 4	16 6	15 8	14 10	13 12	12 15	11 17	10 19	9 21	9
22	18 17	17 19	16 21	15 23	14 25	13 26	12 28	11 30	10 32	9 34	8
23	18 33	17 35	16 36	15 38	14 40	13 41	12 43	11 45	10 47	9 49	7
24	18 48	17 50	16 52	15 54	14 56	13 57	12 59	12 0	11 3	10 5	6
25	19 2	18 4	17 6	16 8	15 10	14 11	13 15	12 14	11 17	10 19	5
26	19 17	18 19	17 20	16 22	15 24	14 25	13 27	12 29	11 31	10 33	4
27	19 31	18 33	17 34	16 36	15 37	14 39	13 40	12 42	11 44	10 46	3
28	19 44	18 45	17 47	16 48	15 49	14 51	13 52	12 54	11 56	10 58	2
29	19 57	18 58	17 59	17 1	16 2	15 4	14 5	13 7	12 9	11 11	1
30	20 10	19 11	18 12	17 14	16 15	15 16	14 17	13 18	12 19	11 21	0
	0	1	2	3	4	5	6	7	8	9	♒

NORTH LATITUDE.

♐	0		1		2		3		4		5		6		7		8		9		
	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	20	10	19	11	18	12	17	14	16	15	15	16	14	17	13	18	12	19	11	21	30
1	20	23	19	24	18	25	17	26	16	27	15	29	14	30	13	31	12	32	11	33	29
2	20	35	19	36	18	37	17	38	16	39	15	41	14	42	13	43	12	44	11	45	28
3	20	47	19	48	18	49	17	50	16	52	15	53	14	54	13	55	12	56	11	57	27
4	20	58	19	59	19	0	18	1	17	2	16	3	15	5	14	6	13	7	12	8	26
5	21	9	20	10	19	11	18	12	17	12	16	14	15	15	14	16	13	17	12	18	25
6	21	20	20	21	19	22	18	23	17	24	16	25	15	25	14	26	13	27	12	28	24
7	21	30	20	31	19	32	18	33	17	34	16	34	15	35	14	36	13	37	12	37	23
8	21	40	20	41	19	42	18	43	17	44	16	43	15	44	14	44	13	45	12	45	22
9	21	49	20	50	19	51	18	52	17	53	16	53	15	54	14	54	13	55	12	55	21
10	21	58	20	59	20	0	19	1	18	2	17	2	16	2	15	3	14	4	13	4	20
11	22	7	21	8	20	9	19	10	18	11	17	11	16	11	15	12	14	13	13	13	19
12	22	15	21	16	20	17	19	18	18	19	17	19	16	19	15	20	14	21	13	21	18
13	22	23	21	24	20	25	19	25	18	26	17	26	16	26	15	27	14	27	13	27	17
14	22	30	21	31	20	32	19	32	18	33	17	33	16	33	15	34	14	34	13	34	16
15	22	37	21	37	20	37	19	37	18	38	17	38	16	38	15	39	14	39	13	39	15
16	22	44	21	44	20	44	19	44	18	45	17	45	16	45	15	46	14	46	13	46	14
17	22	50	21	50	20	50	19	50	18	51	17	51	16	51	15	52	14	52	13	52	13
18	22	56	21	56	20	56	19	56	18	57	17	57	16	57	15	58	14	58	13	58	12
19	23	1	22	1	21	1	20	1	19	2	18	2	17	2	16	2	15	2	14	2	11
20	23	5	22	5	21	5	20	5	19	5	18	5	17	5	16	5	15	5	14	5	10
21	23	10	22	9	21	9	20	9	19	9	18	9	17	9	16	9	15	9	14	9	9
22	23	13	22	13	21	13	20	13	19	13	18	19	17	19	16	19	15	19	14	19	8
23	23	17	22	16	21	16	20	16	19	16	18	16	17	16	16	16	15	16	14	16	7
24	23	20	22	19	21	19	20	19	19	19	18	19	17	19	16	19	15	19	14	19	6
25	23	22	22	22	21	22	20	22	19	22	18	22	17	22	16	22	15	22	14	22	5
26	23	24	22	25	21	25	20	25	19	25	18	25	17	25	16	25	15	25	14	25	4
27	23	26	22	26	21	26	20	26	19	26	18	26	17	26	16	26	15	26	14	26	3
28	23	27	22	27	21	27	20	27	19	27	18	27	17	27	16	27	15	27	14	27	2
29	23	28	22	28	21	28	20	28	19	28	18	28	17	28	16	28	15	28	14	28	1
30	23	28	22	28	21	28	20	28	19	28	18	28	17	28	16	28	15	28	14	28	0
	0		1		2		3		4		5		6		7		8		9		♑

South Latitude.

♋	0	1	2	3	4	5	6	7	8	9	
0	23° 28′	22° 28′	21° 28′	20° 28′	19° 28′	18° 28′	17° 28′	16° 28′	15° 28′	14° 28′	30
1	23 28	22 28	21 28	20 28	19 28	18 28	17 28	16 28	15 28	14 28	29
2	23 27	22 27	21 27	20 27	19 27	18 27	17 27	16 27	15 27	14 27	28
3	23 26	22 26	21 26	20 26	19 26	18 26	17 26	16 26	15 26	14 26	27
4	23 24	22 25	21 25	20 25	19 25	18 25	17 25	16 25	15 25	14 25	26
5	23 22	22 22	21 22	20 22	19 22	18 22	17 22	16 22	15 22	14 22	25
6	23 20	22 19	21 19	20 19	19 19	18 19	17 19	16 19	15 19	14 19	24
7	23 17	22 16	21 16	20 16	19 16	18 16	17 16	16 16	15 16	14 16	23
8	23 13	22 13	21 13	20 13	19 13	18 19	17 19	16 19	15 19	14 19	22
9	23 10	22 9	21 9	20 9	19 9	18 9	17 9	16 9	15 9	14 9	21
10	23 5	22 5	21 5	20 5	19 5	18 5	17 5	16 5	15 5	14 5	20
11	23 1	22 1	21 1	20 1	19 2	18 2	17 2	16 2	15 2	14 2	19
12	22 56	21 56	20 56	19 56	18 57	17 57	16 57	15 58	14 58	13 58	18
13	22 50	21 50	20 50	19 50	18 51	17 51	16 51	15 52	14 52	13 52	17
14	22 44	21 44	20 44	19 44	18 45	17 45	16 45	15 46	14 46	13 46	16
15	22 37	21 37	20 37	19 37	18 38	17 38	16 38	15 39	14 39	13 39	15
16	22 30	21 31	20 32	19 32	18 33	17 33	16 33	15 34	14 34	13 34	14
17	22 23	21 24	20 25	19 25	18 26	17 26	16 26	15 27	14 27	13 27	13
18	22 15	21 16	90 17	19 18	18 19	17 19	16 19	15 20	14 21	13 21	12
19	22 7	21 8	20 9	19 10	18 11	17 11	16 11	15 12	14 13	13 13	11
20	21 58	20 59	20 0	19 1	18 2	17 2	16 2	15 3	14 4	13 4	10
21	21 49	20 50	19 51	18 52	17 53	16 53	15 54	14 54	13 55	12 55	9
22	21 40	20 41	19 42	18 43	17 44	16 43	15 44	14 44	13 45	12 45	8
23	21 30	20 31	19 32	18 33	17 34	16 34	15 35	14 36	13 37	12 37	7
24	21 20	20 21	19 22	18 23	17 24	16 25	15 25	14 26	13 27	12 28	6
25	21 9	20 10	19 11	18 12	17 12	16 14	15 15	14 16	13 17	12 18	5
26	20 58	19 59	19 0	18 1	17 2	16 3	15 5	14 6	13 7	12 8	4
27	20 47	19 48	18 49	17 50	16 52	15 53	14 54	13 55	12 56	11 57	3
28	20 35	19 36	18 37	17 38	16 39	15 41	14 42	13 43	12 44	11 45	2
29	20 23	19 24	18 25	17 26	16 27	15 29	14 30	13 31	12 32	11 33	1
30	20 10	19 11	18 12	17 14	16 15	15 16	14 17	13 18	12 19	11 21	0
	0	1	2	3	4	5	6	7	8	9	11

South Latitude.

♌	0	1	2	3	4	5	6	7	8	9	
0	20° 10′	19° 11′	18° 12′	17° 14′	16° 15′	15° 16′	14° 17′	13° 18′	12° 19′	11° 21′	30
1	19 57	18 58	17 59	17 1	16 2	15 4	14 5	13 7	12 9	11 11	29
2	19 44	18 45	17 47	16 48	15 49	14 51	13 52	12 54	11 56	10 58	28
3	19 31	18 33	17 34	16 36	15 37	14 39	13 40	12 42	11 44	10 46	27
4	19 17	18 19	17 20	16 22	15 24	14 25	13 27	12 29	11 31	10 33	26
5	19 2	18 4	17 6	16 8	15 10	14 11	13 13	12 14	11 17	10 19	25
6	18 48	17 50	16 52	15 54	14 56	13 57	12 59	12 0	11 3	10 5	24
7	18 33	17 35	16 36	15 38	14 40	13 41	12 43	11 45	10 47	9 49	23
8	18 17	17 19	16 21	15 23	14 25	13 26	12 28	11 30	10 32	9 34	22
9	18 2	17 4	16 6	15 8	14 10	13 12	12 15	11 17	10 19	9 21	21
10	17 46	16 48	15 50	14 52	13 54	12 56	11 59	11 1	10 4	9 6	20
11	17 29	16 31	15 33	14 35	13 37	12 39	11 42	10 45	9 47	8 49	19
12	17 13	16 15	15 18	14 20	13 22	12 24	11 27	10 30	9 32	8 34	18
13	16 56	15 58	15 1	14 3	13 6	12 8	11 11	10 14	9 16	8 19	17
14	16 39	15 41	14 44	13 46	12 49	11 51	10 54	9 57	9 0	8 2	16
15	16 21	15 23	14 26	13 29	12 32	11 34	10 37	9 40	8 43	7 45	15
16	16 3	15 5	14 8	13 11	12 14	11 16	10 19	9 22	8 25	7 28	14
17	15 45	14 47	13 50	12 53	11 56	10 58	10 1	9 4	8 7	7 10	13
18	15 27	14 30	13 33	12 36	11 39	10 41	9 44	8 47	7 50	6 53	12
19	15 9	14 12	13 15	12 18	11 21	10 23	9 26	8 29	7 32	6 35	11
20	14 50	13 53	12 56	11 59	11 2	10 5	9 8	8 11	7 14	6 17	10
21	14 31	13 34	12 37	11 40	10 43	9 46	8 49	7 52	6 55	5 58	9
22	14 11	13 14	12 17	11 20	10 23	9 26	8 29	7 32	6 35	5 38	8
23	13 52	12 56	11 59	11 2	10 5	9 8	8 11	7 14	6 17	5 20	7
24	13 32	12 36	11 39	10 42	9 46	8 49	7 52	6 55	5 58	5 1	6
25	13 12	12 16	11 19	10 22	9 26	8 29	7 33	6 37	5 40	4 43	5
26	12 52	11 56	10 58	10 1	9 5	8 8	7 12	6 16	5 21	4 24	4
27	12 32	11 36	10 39	9 43	8 47	7 50	6 54	5 58	5 3	4 5	3
28	12 11	11 15	10 18	9 22	8 26	7 29	6 32	5 36	4 41	3 45	2
29	11 50	10 54	9 58	9 2	8 6	7 10	6 14	5 18	4 22	3 26	1
30	11 29	10 33	9 37	8 41	7 45	6 49	5 53	4 57	4 1	3 5	0
	0	1	2	3	4	5	4	7	8	9	♉

South Latitude.

♍	0	1	2	3	4	5	6	7	8	9		
0	11° 29′	10° 33′	9° 37′	8° 41′	7° 45′	6° 49′	5° 53′	4° 57′	4° 1′	3° 5′	30	
1	11 8	10 13	9 17	8 21	7 24	6 28	5 32	4 36	3 40	2 44	29	
2	10 46	9 51	8 55	8 0	7 4	6 8	5 12	4 16	3 20	2 24	28	
3	10 25	9 30	8 34	7 38	6 42	5 46	4 50	3 54	2 58	2 2	27	
4	10 3	9 7	8 11	7 15	6 19	5 24	4 28	3 32	2 36	1 40	26	
5	9 41	8 45	7 49	6 53	5 57	5 2	4 6	3 10	2 15	1 19	25	
6	9 19	8 23	7 27	6 31	5 35	4 40	3 45	2 49	1 54	0 58	24	
7	8 57	8 1	7 5	6 9	5 13	4 18	3 22	2 26	1 31	0 36	23	
8	8 35	7 39	6 43	5 47	4 51	3 56	3 0	2 4	1 9	0 14	22	N.
9	8 12	7 16	6 20	5 24	4 28	3 32	2 37	1 41	0 46	0 9	21	
10	7 50	6 54	5 58	5 2	4 6	3 10	2 15	1 19	0 24	0 31	20	S.
11	7 27	6 31	5 36	4 40	3 45	2 49	1 54	0 58	0 3	0 53	19	
12	7 5	6 9	5 14	4 18	3 23	2 27	1 32	0 36	0 19	1 15	18	
13	6 41	5 45	4 50	3 54	2 59	2 3	1 8	0 13	0 42	1 37	17	
14	6 18	5 22	4 27	3 31	2 36	1 40	0 45	0 9	1 5	2 0	16	
15	5 55	5 0	4 5	3 9	2 14	1 18	0 23	0 32	1 28	2 23	15	
16	5 32	4 37	3 42	2 46	1 51	0 56	0 0	0 55	1 51	2 47	14	
17	5 8	4 13	3 18	2 23	1 28	0 33	0 24	1 19	2 15	3 10	13	
18	4 45	3 50	2 55	2 0	1 5	0 14	0 46	1 41	2 37	3 33	12	
19	4 21	3 26	2 31	1 36	0 41	0 14	1 9	2 4	3 0	3 55	11	
20	3 58	3 3	2 8	1 13	0 18	0 38	1 33	2 28	3 23	4 18	10	
21	3 34	2 39	1 44	0 49	0 6	1 2	1 57	2 52	3 47	4 42	9	
22	3 11	2 16	1 21	0 26	0 29	1 25	2 20	3 15	4 10	5 5	8	
23	2 47	1 52	0 57	0 2	0 53	1 48	2 43	3 38	4 33	5 28	7	
24	2 23	1 28	0 33	0 22	1 17	2 12	3 7	4 2	4 57	5 52	6	
25	2 0	1 5	0 10	0 46	1 41	2 36	3 31	4 26	5 21	6 16	5	
26	1 36	0 41	0 15	1 10	2 5	3 0	3 55	4 50	5 45	6 40	4	
27	1 12	0 17	0 39	1 34	2 29	3 24	4 19	5 14	6 9	7 4	3	
28	0 48	0 7	1 3	1 57	2 52	3 47	4 42	5 37	6 32	7 27	2	
N. 29	0 24	0 31	1 27	2 21	3 16	4 11	5 6	6 1	6 56	7 51	1	
30	0 0	0 55	1 50	2 45	3 40	4 35	5 30	6 25	7 20	8 15	0	
	0	1	2	3	4	5	6	7	8	9	♈	

S. C

SOUTH LATITUDE.

♎	0	1	2	3	4	5	6	7	8	9	
0	0° 0′	0° 55′	1° 50′	2° 45′	3° 40′	4° 35′	5° 30′	6° 25′	7° 20′	8° 15′	30
1	0 24	1 19	2 14	3 9	4 4	4 59	5 54	6 49	7 44	8 39	29
2	0 48	1 48	2 43	3 38	4 33	5 23	6 18	7 13	8 8	9 3	28
3	1 12	2 7	3 2	3 57	4 52	5 47	6 42	7 37	8 32	9 27	27
4	1 36	2 31	3 26	4 21	5 16	6 11	7 6	8 1	8 56	9 51	26
5	2 0	2 55	3 50	4 45	5 40	6 35	7 30	8 25	9 20	10 15	25
6	2 23	3 19	4 14	5 9	6 4	6 59	7 54	8 49	9 44	10 39	24
7	2 47	3 43	4 38	5 33	6 28	7 23	8 18	9 13	10 8	11 3	23
8	3 11	4 7	5 2	5 57	6 52	7 47	8 42	9 37	10 32	11 27	22
9	3 34	4 30	5 25	6 20	7 15	8 10	9 5	10 0	10 55	11 50	21
10	3 58	4 54	5 49	6 44	7 39	8 34	9 29	10 24	11 19	12 14	20
11	4 21	5 17	6 12	7 7	8 2	8 57	9 52	10 47	11 42	12 37	19
12	4 45	5 41	6 36	7 31	8 26	9 21	10 16	11 11	12 6	13 1	18
13	5 8	6 4	6 59	7 54	8 49	9 44	10 39	11 34	12 29	13 24	17
14	5 32	6 28	7 23	8 18	9 13	10 8	11 3	11 58	12 53	13 48	16
15	5 55	6 51	7 46	8 41	9 36	10 31	11 26	12 21	13 16	14 11	15
16	6 18	7 13	8 8	9 3	9 58	10 53	11 48	12 43	13 38	14 33	14
17	6 41	7 36	8 31	9 26	10 21	11 16	12 11	13 6	14 1	14 56	13
18	7 5	8 0	8 55	9 50	10 45	11 40	12 35	13 30	14 25	15 20	12
19	7 27	8 22	9 17	10 12	11 7	12 2	12 57	13 52	14 47	15 42	11
20	7 50	8 46	9 41	10 36	11 31	12 26	13 21	14 16	15 11	16 6	10
21	8 12	9 8	10 4	10 59	11 54	12 49	13 44	14 39	15 34	16 30	9
22	8 35	9 31	10 27	11 22	12 18	13 13	14 9	15 4	15 59	16 54	8
23	8 57	9 53	10 49	11 44	12 40	13 35	14 31	15 26	16 21	17 16	7
24	9 19	10 15	11 11	12 6	13 2	13 58	14 54	15 50	16 45	17 40	6
25	9 41	10 39	11 35	12 30	13 26	14 22	15 18	16 14	17 9	18 4	5
26	10 3	10 59	11 55	12 51	13 47	14 43	15 39	16 35	17 31	18 27	4
27	10 25	11 21	12 17	13 12	14 8	15 4	16 0	16 56	17 52	18 48	3
28	10 46	11 42	12 38	13 33	14 29	15 25	16 21	17 17	18 13	19 9	2
29	11 8	12 4	13 0	13 56	14 51	15 47	16 43	17 39	18 35	19 31	1
30	11 29	12 24	13 20	14 16	15 12	16 8	17 4	18 0	18 56	19 52	0
	0	1	2	3	4	5	6	7	8	9	♓

South Latitude.

♏	0	1	2	3	4	5	6	7	8	9	
0	11° 29′	12° 24′	13° 20′	14° 16′	15° 12′	16° 8′	17° 4′	18° 0′	18° 56′	19° 52′	30
1	11 50	12 45	13 41	14 37	15 33	16 30	17 26	18 22	19 18	20 14	29
2	12 11	13 6	14 2	14 58	15 54	16 51	17 47	18 43	19 39	20 35	28
3	12 32	13 27	14 23	15 19	16 15	17 12	18 8	19 4	20 0	20 56	27
4	12 52	13 47	14 43	15 39	16 35	17 32	18 28	19 24	20 20	21 16	26
5	13 12	14 7	15 3	16 0	16 56	17 53	18 49	19 45	20 41	21 37	25
6	13 32	14 27	15 23	16 19	17 15	18 12	19 8	20 5	21 1	21 57	24
7	13 52	14 47	15 43	16 40	17 36	18 33	19 29	20 26	21 22	22 18	23
8	14 11	15 7	16 3	17 0	17 56	18 53	19 50	20 47	21 43	22 40	22
9	14 31	15 26	16 22	17 19	18 16	19 13	20 10	21 7	22 3	23 0	21
10	14 50	15 45	16 41	17 38	18 35	19 32	20 29	21 26	22 22	23 19	20
11	15 9	16 4	17 1	17 58	18 55	19 52	20 49	21 46	22 43	23 40	19
12	15 27	16 23	17 20	18 17	19 14	20 11	21 8	22 5	23 2	23 59	18
13	15 45	16 42	17 39	18 36	19 33	20 30	21 27	22 24	23 21	24 18	17
14	16 3	17 0	17 57	18 54	19 51	20 49	21 46	22 43	23 40	24 37	16
15	16 21	17 18	18 15	19 12	20 9	21 7	22 4	23 1	23 58	24 55	15
16	16 39	17 35	18 33	19 30	20 27	21 25	22 22	23 19	24 16	25 13	14
17	16 56	17 52	18 50	19 47	20 44	21 42	22 39	23 36	24 33	25 30	13
18	17 13	18 9	19 7	20 5	21 2	22 0	22 57	23 54	24 52	25 49	12
19	17 29	18 26	19 24	20 22	21 19	22 17	23 14	24 11	25 9	26 7	11
20	17 46	18 43	19 41	20 38	21 36	22 34	23 31	24 28	25 26	26 24	10
21	18 2	18 59	19 57	20 55	21 53	22 51	23 49	24 46	25 44	26 42	9
22	18 17	19 15	20 13	21 11	22 9	23 7	24 5	25 3	26 1	26 59	8
23	18 33	19 31	20 29	21 27	22 25	23 23	24 21	25 19	26 17	27 15	7
24	18 48	19 46	20 44	21 42	22 40	23 38	24 36	25 34	26 32	27 30	6
25	19 2	20 0	20 59	21 57	22 55	23 53	24 51	25 49	26 47	27 45	5
26	19 17	20 14	21 13	22 11	23 9	24 8	25 6	26 4	27 2	28 0	4
27	19 31	20 28	21 27	22 25	23 23	24 22	25 20	26 18	27 16	28 14	3
28	19 44	20 42	21 41	22 39	23 37	24 36	25 34	26 32	27 30	28 28	2
29	19 57	20 56	21 54	22 53	23 51	24 50	25 48	26 46	27 44	28 42	1
30	20 10	21 8	22 6	23 5	24 4	25 2	26 0	26 59	27 57	28 55	0
	0	1	2	3	4	5	6	7	8	9	♒

SOUTH LATITUDE.

♐	0		1		2		3		4		5		6		7		8		9		
	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	
0	20	10	21	8	22	6	23	5	24	4	25	2	26	0	26	59	27	57	28	55	30
1	20	23	21	20	22	19	23	18	24	17	25	16	26	14	27	13	28	12	29	11	29
2	20	35	21	32	22	31	23	30	24	29	25	28	26	26	27	25	28	24	29	23	28
3	20	47	21	44	22	43	23	42	24	41	25	40	26	39	27	38	28	37	29	36	27
4	20	58	21	56	22	55	23	54	24	53	25	52	26	51	27	50	28	49	29	48	26
5	21	9	22	8	23	7	24	6	25	5	26	4	27	3	28	2	29	1	30	0	25
6	21	20	22	19	23	18	24	17	25	16	26	15	27	14	28	13	29	12	30	11	24
7	21	30	22	30	23	29	24	28	25	27	26	26	27	25	28	25	29	24	30	23	23
8	21	40	22	40	23	39	24	38	25	37	26	36	27	35	28	35	29	34	30	33	22
9	21	49	22	49	23	48	24	47	25	46	26	45	27	44	28	43	29	42	30	41	21
10	21	58	22	58	23	57	24	56	25	55	26	54	27	53	28	52	29	51	30	50	20
11	22	7	23	7	24	6	25	6	26	5	27	4	28	3	29	2	30	1	31	0	19
12	22	15	23	15	24	14	25	14	26	13	27	12	28	11	29	10	30	9	31	9	18
13	22	23	23	23	24	22	25	22	26	21	27	20	28	19	29	18	30	17	31	17	17
14	22	30	23	30	24	29	25	29	26	29	27	28	28	28	29	27	30	26	31	26	16
15	22	37	23	37	24	36	25	36	26	36	27	35	28	35	29	34	30	33	31	33	15
16	22	44	23	44	24	43	25	43	26	43	27	42	28	42	29	41	30	40	31	40	14
17	22	50	23	50	24	50	25	50	26	50	27	50	28	50	29	48	30	48	31	48	13
18	22	56	23	56	24	56	25	56	26	56	27	56	28	56	29	55	30	55	31	55	12
19	23	1	24	1	25	1	26	1	27	0	28	0	29	0	30	0	30	59	32	0	11
20	23	5	24	5	25	5	26	5	27	5	28	5	29	5	30	5	31	5	32	5	10
21	23	10	24	9	25	9	26	9	27	9	28	9	29	9	30	9	31	9	32	9	9
22	23	13	24	13	25	13	26	13	27	13	28	13	29	13	30	13	31	13	32	13	8
23	23	17	24	16	25	16	26	16	27	16	28	16	29	16	30	16	31	16	32	16	7
24	23	20	24	19	25	19	26	19	27	19	28	19	29	19	30	19	31	19	32	19	6
25	23	22	24	22	25	22	26	22	27	22	28	22	29	22	30	22	31	22	32	22	5
26	23	24	24	24	25	24	26	24	27	24	28	24	29	24	30	24	31	24	32	24	4
27	23	26	24	26	25	26	26	26	27	26	28	26	29	26	30	26	31	26	32	26	3
28	23	27	24	27	25	27	26	27	27	27	28	27	29	27	30	27	31	27	32	27	2
29	23	28	24	28	25	28	26	28	27	28	28	28	29	28	30	28	31	28	32	28	1
30	23	28	24	28	25	28	26	28	27	28	28	28	29	28	30	28	31	28	32	28	0
	0		1		2		3		4		5		6		7		8		9		♑

North Latitude.

♈	0		1		2		3		4		5		6		7		8		9	
	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′
0	0	0	359	37	359	13	358	49	358	25	358	1	357	37	357	13	356	48	356	23
1	0	55	0	32	0	8	359	44	359	20	358	58	358	32	358	8	357	43	357	18
2	1	50	1	27	1	3	0	39	0	15	359	51	359	27	359	3	358	38	358	13
3	2	45	2	22	1	58	1	34	1	10	0	46	0	22	359	58	359	34	359	9
4	3	40	3	17	2	53	2	9	2	5	1	41	1	17	0	53	0	29	0	4
5	4	35	4	12	3	48	3	24	3	0	2	36	2	12	1	48	1	24	0	59
6	5	30	5	7	4	43	4	19	3	55	3	31	3	7	2	43	2	19	1	54
7	6	25	6	2	5	38	5	14	4	50	4	26	4	2	3	38	3	14	2	49
8	7	21	6	57	6	33	6	9	5	45	5	21	4	57	4	33	4	9	3	44
9	8	16	7	52	7	28	7	4	6	40	6	16	5	52	5	28	5	4	4	39
10	9	11	8	47	8	23	7	59	7	35	7	11	6	47	6	23	5	59	5	34
11	10	6	9	42	9	18	8	55	8	31	8	7	7	43	7	19	6	55	6	30
12	11	2	10	38	10	14	9	51	9	27	9	3	8	39	8	15	7	51	7	26
13	11	57	11	33	11	9	10	46	10	22	9	58	9	34	9	10	8	46	8	22
14	12	53	12	29	12	5	11	42	11	18	10	54	10	30	10	6	9	42	9	18
15	13	48	13	25	13	1	12	38	12	14	11	50	11	26	11	2	10	38	10	14
16	14	44	14	20	13	57	13	34	13	10	12	46	12	22	11	58	11	34	11	10
17	15	40	15	16	14	53	14	30	14	6	13	42	13	18	12	54	12	30	12	6
18	16	35	16	12	15	49	15	26	15	2	14	39	14	15	13	51	13	27	13	3
19	17	31	17	8	16	45	16	22	15	58	15	35	15	11	14	47	14	23	13	59
20	18	27	18	4	17	41	17	18	16	54	16	31	16	7	15	44	15	20	14	56
21	19	23	19	0	18	37	18	14	17	51	17	28	17	4	16	41	16	17	15	53
22	20	20	19	56	19	33	19	11	18	48	18	25	18	1	17	38	17	14	16	50
23	21	16	20	53	20	30	20	8	19	45	19	22	18	58	18	35	18	11	17	47
24	22	12	21	50	21	27	21	5	20	42	20	19	19	55	19	32	19	8	18	44
25	23	9	22	47	22	24	22	2	21	39	21	16	20	52	20	29	20	5	19	41
26	24	6	23	44	23	21	22	59	22	36	22	13	21	50	21	27	21	3	20	39
27	25	2	24	41	24	19	23	57	23	34	23	11	22	48	22	25	22	1	21	37
28	25	59	25	38	25	16	24	54	24	31	24	9	23	46	23	23	22	59	22	35
29	26	57	26	35	26	13	25	51	25	29	25	7	24	44	24	21	23	57	23	34
30	27	54	27	33	27	11	26	49	26	27	26	5	25	42	25	19	24	56	24	33

Same as Right. for Obl Ecl. 23°. 31′ [illegible]

North Latitude.

♉	0	1	2	3	4	5	6	7	8	9
0	27° 54′	27° 33′	27° 11′	26° 49′	26° 27	26° 5′	25° 42′	25° 19′	24° 56′	24° 32′
1	28 51	28 30	28 8	27 47	27 25	27 3	26 40	26 17	25 54	25 31
2	29 49	29 27	29 6	28 45	28 23	28 1	27 38	27 16	26 53	26 30
3	30 46	30 25	30 4	29 43	29 21	28 59	28 37	28 15	27 52	27 29
4	31 44	31 23	31 2	30 41	30 19	29 58	29 36	29 14	28 51	28 28
5	32 42	32 21	32 0	31 39	31 18	30 57	30 35	30 13	29 50	29 27
6	33 40	33 20	32 59	32 38	32 17	31 56	31 34	31 12	30 50	30 27
7	34 38	34 18	33 58	33 37	33 16	32 55	32 33	32 12	31 50	31 27
8	35 37	35 17	34 57	34 36	34 25	33 54	33 33	33 12	32 50	32 27
9	36 36	36 16	35 56	35 36	35 15	34 54	34 33	34 12	33 51	33 27
10	37 34	37 15	36 55	36 35	36 15	35 54	35 33	35 12	34 51	34 28
11	38 33	38 14	37 54	37 35	37 15	36 54	36 33	36 13	35 52	35 29
12	39 33	39 14	38 54	38 35	38 15	37 55	37 34	37 14	36 53	36 30
13	40 32	40 13	39 54	39 35	39 15	38 56	38 35	38 15	37 54	37 32
14	41 31	41 13	40 54	40 35	40 16	39 57	39 36	39 16	38 56	38 34
15	42 31	42 13	41 54	41 36	41 17	40 58	40 38	40 18	39 58	39 36
16	43 31	43 13	42 54	42 36	42 18	41 59	41 39	41 19	41 0	40 38
17	44 31	44 13	43 55	43 37	43 19	43 0	42 40	42 21	42 2	41 40
18	45 31	45 14	44 56	44 38	44 20	44 1	43 42	43 23	43 4	42 43
19	46 32	46 14	45 57	45 39	45 21	45 3	44 44	44 25	44 7	43 46
20	47 32	47 15	46 58	46 40	46 23	46 5	45 46	45 28	45 10	44 50
21	48 33	48 16	47 59	47 42	47 25	47 7	46 49	46 31	46 13	45 54
22	49 34	49 17	49 0	48 44	48 27	48 9	47 52	47 34	47 16	46 58
23	50 35	50 18	50 2	49 46	49 29	49 12	48 55	48 37	48 20	48 3
24	51 36	51 20	51 4	50 48	50 32	50 15	49 58	49 41	49 24	49 7
25	52 38	52 22	52 6	51 51	51 35	51 18	51 2	50 45	50 28	50 12
26	53 40	53 24	53 9	52 54	52 38	52 22	52 6	51 49	51 33	51 17
27	54 42	54 27	54 12	53 57	53 42	53 26	53 10	52 54	52 38	52 22
28	55 44	55 29	55 15	55 0	54 45	54 30	54 14	53 58	53 43	53 27
29	56 46	56 32	56 18	56 3	55 49	55 34	55 18	55 3	54 48	54 32
30	57 48	57 35	57 21	57 7	56 53	56 38	56 23	56 8	55 53	55 37

North Latitude.

II	0		1		2		3		4		5		6		7		8		9	
	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′
0	57	48	57	35	57	21	57	7	56	53	56	38	56	23	56	8	55	53	55	38
1	58	51	58	38	58	24	58	10	57	57	57	42	57	28	57	13	56	59	56	44
2	59	53	59	41	59	27	59	14	59	1	58	47	58	33	58	19	58	5	57	50
3	60	56	60	44	60	31	60	18	60	5	59	52	59	38	59	25	59	11	58	57
4	61	59	61	47	61	35	61	22	61	10	60	57	60	44	60	31	60	17	60	4
5	63	3	62	51	62	39	62	27	62	15	62	2	61	50	61	37	61	24	61	11
6	64	6	63	55	63	43	63	32	63	20	63	8	62	56	62	44	62	31	62	18
7	65	9	64	59	64	47	64	37	64	25	64	13	64	2	63	50	63	38	63	25
8	66	13	66	3	65	52	65	42	65	30	65	19	65	8	64	56	64	45	64	33
9	67	17	67	7	66	57	66	47	66	36	66	25	66	14	66	3	65	52	65	41
10	68	21	68	11	68	2	67	52	67	42	67	31	67	21	67	10	67	0	66	49
11	69	25	69	16	69	7	68	57	68	48	68	38	68	28	68	18	68	8	67	57
12	70	29	70	21	70	12	70	3	69	54	69	45	69	35	69	26	69	16	69	5
13	71	34	71	26	71	17	71	9	71	0	70	51	70	42	70	33	70	24	70	14
14	72	38	72	31	72	22	72	15	72	6	71	58	71	49	71	41	71	32	71	23
15	73	43	73	36	73	28	73	21	73	13	73	5	72	57	72	49	72	41	72	32
16	74	47	74	41	74	33	74	27	74	19	74	12	74	4	73	57	73	49	73	41
17	75	52	75	46	75	39	75	33	75	26	75	19	75	12	75	5	74	58	74	50
18	76	57	76	51	76	45	76	39	76	33	76	27	76	20	76	14	76	7	75	59
19	78	2	77	56	77	51	77	45	77	40	77	34	77	28	77	22	77	16	77	9
20	79	7	79	2	78	57	78	52	78	47	78	41	78	36	78	30	78	25	78	18
21	80	12	80	8	80	3	79	59	79	54	79	49	79	44	79	39	79	34	79	28
22	81	17	81	13	81	9	81	5	81	1	80	56	80	52	80	48	80	43	80	37
23	82	22	82	18	82	15	82	11	82	8	82	4	82	0	81	57	81	52	81	47
24	83	28	83	24	83	21	83	18	83	15	83	11	83	9	83	6	83	2	82	57
25	84	33	84	30	84	27	84	25	84	22	84	20	84	17	84	15	84	17	84	7
26	85	38	85	36	85	33	85	32	85	29	85	28	85	25	85	24	85	21	85	18
27	86	44	86	42	86	40	86	39	86	37	86	36	86	34	86	33	86	31	86	28
28	87	49	87	48	87	46	87	46	87	44	87	44	87	42	87	42	87	40	87	39
29	88	55	88	54	88	53	88	53	88	52	88	52	88	51	88	51	88	50	88	49
30	90	0	90	0	90	0	90	0	90	0	90	0	90	0	90	0	90	0	90	0

NORTH LATITUDE.

♋	0	1	2	3	4	5	6	7	8	9
0	90° 0′	90° 0′	90° 0′	90° 0′	90° 0′	90° 0′	90° 0′	90° 0′	90° 0′	90° 0′
1	91 5	91 6	91 7	91 7	91 7	91 8	91 9	91 9	91 10	91 11
2	92 11	92 12	92 14	92 14	92 15	92 16	92 18	92 18	92 20	92 22
3	93 16	93 18	93 20	93 21	93 23	93 24	93 26	93 27	93 29	93 32
4	94 22	94 24	94 27	94 28	94 30	94 32	94 35	94 36	94 39	94 42
5	95 27	95 30	95 33	95 35	95 38	95 40	95 43	95 45	95 49	95 52
6	96 32	96 36	96 39	96 42	96 45	96 48	96 51	96 54	96 58	97 2
7	97 38	97 42	97 45	97 49	97 52	97 56	98 0	98 3	98 8	98 12
8	98 43	98 47	98 51	98 55	99 0	99 4	99 8	99 12	99 17	99 21
9	99 48	99 52	99 57	100 1	100 7	100 12	100 16	100 21	100 26	100 31
10	100 53	100 58	101 3	101 8	101 14	101 19	101 24	101 30	101 35	101 40
11	101 58	102 4	102 9	102 15	102 21	102 26	102 32	102 38	102 44	102 50
12	103 3	103 9	103 15	103 21	103 27	103 33	103 40	103 46	103 53	103 59
13	104 8	104 14	104 21	104 27	104 34	104 41	104 48	104 55	105 2	105 9
14	105 13	105 19	105 27	105 33	105 41	105 48	105 56	106 3	106 11	106 18
15	106 17	106 24	106 33	106 39	106 47	106 55	107 3	107 11	107 19	107 27
16	107 22	107 29	107 38	107 45	107 53	108 2	108 11	108 19	108 28	108 36
17	108 26	108 34	108 43	108 53	108 59	109 9	109 18	109 27	109 36	109 45
18	109 31	109 39	109 48	109 57	110 5	110 15	110 25	110 34	110 44	110 54
19	110 35	110 34	110 53	111 3	111 12	111 22	111 32	111 42	111 52	112 2
20	111 39	111 49	111 58	112 8	112 18	112 29	112 35	112 50	113 0	113 11
21	112 43	112 54	113 3	113 13	113 24	113 35	113 46	113 57	114 8	114 19
22	113 47	113 57	114 8	114 18	114 30	114 41	114 52	115 4	115 15	115 27
23	114 51	115 1	115 13	115 23	115 35	115 47	115 58	116 10	116 22	116 35
24	115 54	116 5	116 17	116 28	116 41	116 52	117 4	117 17	117 29	117 41
25	116 57	117 9	117 21	117 33	117 46	117 58	118 10	118 23	118 36	118 49
26	118 1	118 13	118 25	118 38	118 51	119 3	119 16	119 29	119 43	119 56
27	119 4	119 16	119 29	119 42	119 55	120 8	120 22	120 35	120 49	121 3
28	120 7	120 19	120 33	120 46	120 59	121 13	121 27	121 41	121 55	122 10
29	121 9	121 22	121 36	121 50	122 3	122 18	122 32	122 47	123 1	123 16
30	122 12	122 25	122 39	122 53	123 7	123 22	123 37	123 52	124 7	124 22

North Latitude.

♌	0	1	2	3	4	5	6	7	8	9
0	122° 12′	122° 25′	122° 39′	122° 53′	123° 7′	123° 22′	123° 37′	123° 52′	124° 7′	124° 22′
1	123 14	123 28	123 42	123 57	124 11	124 26	124 42	124 57	125 12	125 28
2	124 16	124 31	124 45	125 0	125 15	125 30	125 46	126 2	126 17	126 33
3	125 18	125 33	125 48	126 3	126 18	126 34	126 50	127 6	127 22	127 38
4	126 20	126 36	126 51	127 6	127 22	127 38	127 54	128 11	128 27	128 43
5	127 22	127 38	127 54	128 9	128 25	128 42	128 58	129 15	129 32	129 48
6	128 24	128 40	128 56	129 12	129 28	129 45	130 2	130 19	130 36	130 53
7	129 25	129 42	129 58	130 14	130 31	130 48	131 5	131 23	131 40	131 58
8	130 26	130 43	131 0	131 16	131 33	131 51	132 8	132 26	132 44	133 2
9	131 27	131 44	132 1	132 18	132 35	132 53	133 11	133 29	133 47	134 6
10	132 28	132 45	133 2	133 20	133 37	133 55	134 14	134 22	134 50	135 9
11	133 28	133 46	134 3	134 21	134 39	134 57	135 16	135 35	135 53	136 12
12	134 29	134 47	135 4	135 22	135 40	135 59	136 18	136 37	136 56	137 15
13	135 29	135 47	136 5	136 23	136 41	137 0	137 20	137 39	137 58	138 17
14	136 29	136 47	137 6	137 24	137 42	138 1	138 21	138 41	139 0	139 20
15	137 29	137 47	138 6	138 24	138 43	139 2	139 22	139 42	140 2	140 22
16	138 29	138 47	139 6	139 25	139 44	140 3	140 24	140 44	141 4	141 24
17	139 28	139 47	140 6	140 25	140 45	141 4	141 25	141 45	142 6	142 26
18	140 28	140 46	141 6	141 25	141 45	142 5	142 26	142 46	143 7	143 27
19	141 27	141 46	142 6	142 25	142 45	143 6	143 27	143 47	144 8	144 28
20	142 26	142 45	143 5	143 25	143 45	144 6	144 27	144 48	145 9	145 29
21	143 25	143 44	144 4	144 24	144 45	145 6	145 27	145 48	146 9	146 30
22	144 23	144 43	145 3	145 24	145 45	146 6	146 27	146 48	147 10	147 31
23	145 22	145 42	146 2	146 23	146 44	147 5	147 27	147 48	148 10	148 31
24	146 20	146 40	147 0	147 22	147 43	148 4	148 26	148 48	149 10	149 31
25	147 18	147 39	148 1	148 21	148 42	149 3	149 25	149 47	150 10	150 31
26	148 16	148 37	148 58	149 19	149 41	150 2	150 24	150 46	151 9	151 31
27	149 14	149 35	149 56	150 17	150 39	151 1	151 23	151 45	152 8	152 31
28	150 11	150 33	150 54	151 15	151 37	151 59	152 22	152 44	153 7	153 29
29	151 9	151 30	151 52	152 13	152 35	152 57	153 20	153 43	154 6	154 28
30	152 6	152 27	152 49	153 11	153 33	153 55	154 18	154 41	155 4	155 27

North Latitude.

♍	0	1	2	3	4	5	6	7	8	9
0	152° 6′	152° 27′	152° 49′	153° 11′	153° 33′	153° 55′	154° 18′	154° 41′	155° 4′	155° 27′
1	153 4	153 25	153 47	154 9	154 31	154 53	155 16	155 39	156 3	156 26
2	154 1	154 22	154 44	155 6	155 29	155 51	156 14	156 37	157 1	157 25
3	154 58	155 19	155 41	156 3	156 26	156 49	157 12	157 35	157 59	158 23
4	155 54	156 16	156 39	157 1	157 24	157 47	158 10	158 33	158 57	159 21
5	156 51	157 13	157 36	157 58	158 21	158 44	159 8	159 31	159 55	160 19
6	157 48	158 10	158 33	158 55	159 18	159 41	160 5	160 28	160 52	161 16
7	158 44	159 7	159 30	159 51	160 15	160 38	161 2	161 25	161 49	162 13
8	159 40	160 4	160 27	160 49	161 12	161 35	161 59	162 22	162 46	163 10
9	160 37	161 0	161 23	161 46	162 9	162 32	162 56	163 19	163 43	164 7
10	161 33	161 56	162 19	162 42	163 6	163 29	163 53	164 16	164 40	165 4
11	162 29	162 52	163 15	163 38	164 2	164 25	164 49	165 13	165 37	166 1
12	163 25	163 50	164 11	164 34	164 58	165 21	165 45	166 9	166 33	166 58
13	164 20	164 44	165 7	165 30	165 54	166 18	166 42	167 6	167 30	167 54
14	165 16	165 40	166 3	166 26	166 50	167 14	167 38	168 2	168 26	168 50
15	166 12	166 35	166 59	167 22	167 46	168 10	168 34	168 58	169 22	169 46
16	167 7	167 31	167 55	168 18	168 42	169 6	169 30	169 54	170 18	170 42
17	168 3	168 27	168 51	169 14	169 38	170 2	170 26	170 50	171 14	171 38
18	168 58	169 23	169 46	170 9	170 33	170 57	171 21	171 45	172 9	172 34
19	169 54	170 18	170 42	171 5	171 29	171 53	172 17	172 41	173 5	173 30
20	170 49	171 13	171 37	172 1	172 25	172 49	173 13	173 37	174 1	174 25
21	171 44	172 8	172 32	172 56	173 20	173 44	174 8	174 32	174 56	175 21
22	172 39	173 3	173 27	173 51	174 15	174 39	175 3	175 27	175 51	176 16
23	173 35	173 58	174 22	174 46	175 10	175 34	175 58	176 22	176 46	177 12
24	174 30	174 53	175 17	175 41	176 5	176 29	176 53	177 17	177 41	178 7
25	175 25	175 48	176 12	176 36	177 0	177 24	177 48	178 12	178 36	179 2
26	176 20	176 43	177 7	177 31	177 55	178 19	178 43	179 7	179 31	179 57
27	177 15	177 38	178 2	178 26	178 50	179 14	179 38	180 2	180 26	180 52
28	178 10	178 33	178 57	179 21	179 45	180 9	180 33	180 57	181 22	181 47
29	179 5	179 28	179 52	180 16	180 40	181 4	181 28	181 52	182 17	182 42
30	180 0	180 23	180 47	181 11	181 35	181 59	182 23	182 47	183 12	183 37

North Latitude.

♎	0	1	2	3	4	5	6	7	8	9
0	180° 0′	180° 23′	180° 47′	181° 11′	181° 35′	181° 59′	182° 23′	182° 47′	183° 12′	183° 37′
1	180 55	181 18	181 42	182 6	182 30	182 54	183 18	183 42	184 6	184 31
2	181 50	182 13	182 37	183 1	183 25	183 49	184 13	184 37	185 1	185 25
3	182 45	183 8	183 32	183 56	184 20	184 44	185 8	185 32	185 56	186 20
4	183 40	184 3	184 27	184 51	185 15	185 39	186 3	186 27	186 50	187 14
5	184 35	184 58	185 22	185 46	186 10	186 34	186 58	187 22	187 45	188 8
6	185 30	185 54	186 18	186 42	187 6	187 30	187 53	188 17	188 40	189 3
7	186 25	186 49	187 13	187 37	188 1	188 25	188 48	189 12	189 35	189 57
8	187 21	187 44	188 8	188 32	188 56	189 20	189 43	190 7	190 30	190 52
9	188 16	188 39	189 3	189 27	189 51	190 15	190 38	191 2	191 25	191 46
10	189 11	189 34	189 58	190 22	190 46	191 10	191 33	191 57	192 19	192 41
11	190 6	190 29	190 53	191 17	191 41	192 5	192 28	192 52	193 14	193 36
12	191 2	191 25	191 48	192 13	192 36	193 0	193 23	193 47	194 9	194 31
13	191 57	192 20	192 43	193 8	193 31	193 55	194 18	194 41	195 4	195 26
14	192 53	193 16	193 39	194 3	194 26	194 50	195 13	195 36	195 59	196 21
15	193 48	194 12	194 35	194 58	195 21	195 45	196 8	196 31	196 54	197 16
16	194 44	195 7	195 30	195 53	196 16	196 40	197 3	197 26	197 49	198 11
17	195 40	196 2	196 25	196 48	197 11	197 35	197 58	198 21	198 44	199 6
18	196 35	196 58	197 21	197 44	198 7	198 30	198 53	199 16	199 39	200 1
19	197 31	197 54	198 17	198 40	199 2	199 25	199 48	200 11	200 34	200 56
20	198 27	198 50	199 13	199 36	199 58	200 21	200 43	201 7	201 29	201 51
21	199 23	199 46	200 9	200 32	200 54	201 16	201 39	202 2	202 24	202 46
22	200 20	200 42	201 5	201 28	201 50	202 12	202 34	202 57	203 19	203 41
23	201 16	201 38	202 1	202 24	202 46	203 8	203 30	203 52	204 14	204 36
24	202 12	202 35	202 57	203 20	203 42	204 4	204 26	204 48	205 10	205 31
25	203 9	203 31	203 53	204 16	204 38	205 0	205 21	205 43	206 5	206 26
26	204 6	204 28	204 50	205 12	205 34	205 56	206 17	206 39	207 0	207 22
27	205 2	205 25	205 47	206 9	206 30	206 52	207 13	207 35	207 56	208 17
28	205 59	206 22	206 43	207 5	207 26	207 48	208 9	208 30	208 51	209 12
29	206 57	207 19	207 40	208 1	208 22	208 44	209 5	209 26	209 47	210 8
30	207 54	208 16	208 37	208 58	209 19	209 40	210 1	210 22	210 43	211 4

North Latitude.

♏	0	1	2	3	4	5	6	7	8	9
0	207° 54′	208° 16′	208° 37′	208° 58′	209° 19′	209° 40′	210° 1′	210° 22′	210° 43′	211° 4′
1	208 51	209 13	209 34	209 55	210 16	210 37	210 57	211 18	211 39	211 59
2	209 49	210 10	210 31	210 52	211 13	211 34	211 54	212 14	212 35	212 55
3	210 46	211 17	211 28	211 49	212 10	212 31	212 51	213 11	213 31	213 41
4	211 44	212 5	212 25	212 46	213 7	213 27	213 47	214 7	214 27	214 47
5	212 42	213 3	213 23	213 43	214 4	214 24	214 44	215 4	215 23	215 43
6	213 40	214 1	214 21	214 41	215 1	215 21	215 41	216 1	216 20	216 39
7	214 38	214 59	215 19	215 39	215 58	216 18	216 38	216 57	217 16	217 35
8	215 37	215 57	216 17	216 37	216 56	217 15	217 35	217 54	218 13	218 32
9	216 36	216 56	217 15	217 35	217 54	218 13	218 32	218 51	219 10	219 29
10	217 34	217 54	218 13	218 33	218 52	219 11	219 29	219 48	220 7	220 26
11	218 33	218 53	219 12	219 31	219 50	220 9	220 27	220 45	221 4	221 23
12	219 33	219 52	220 11	220 30	220 48	221 7	221 25	221 43	222 1	222 20
13	220 32	220 51	221 10	221 28	221 46	222 5	222 23	222 41	222 58	223 17
14	221 31	221 50	222 9	222 27	222 45	223 3	223 21	223 39	223 56	224 14
15	222 31	222 50	223 8	223 26	223 44	224 2	224 19	224 37	224 54	225 11
16	223 31	223 49	224 7	224 25	224 43	225 0	225 17	225 35	225 51	226 8
17	224 31	224 49	225 6	225 24	225 42	225 59	226 15	226 33	226 49	227 5
18	225 31	225 49	226 6	226 23	226 41	226 58	227 14	227 31	227 47	228 3
19	226 32	226 49	227 6	227 23	227 40	227 57	228 13	228 29	228 45	229 1
20	227 32	227 49	228 6	228 23	228 39	228 56	229 12	229 28	229 43	229 59
21	228 33	228 50	229 6	229 23	229 39	229 55	230 11	230 27	230 41	230 57
22	229 34	229 50	230 6	230 23	230 38	230 54	231 10	231 25	231 40	231 55
23	230 35	230 51	231 6	231 23	231 38	231 53	232 9	232 24	232 38	232 53
24	231 36	231 52	232 7	232 23	232 38	232 53	233 8	233 23	233 37	233 51
25	232 38	232 53	233 8	233 24	233 38	233 53	234 8	234 22	234 36	234 40
26	233 40	233 55	234 9	234 24	234 38	234 53	235 7	235 21	235 35	235 49
27	234 41	234 57	235 11	235 25	235 39	235 53	236 7	236 21	236 34	236 47
28	235 43	235 58	236 12	236 26	236 40	236 54	237 7	237 20	237 33	237 46
29	236 46	237 0	237 14	237 28	237 41	237 54	238 7	238 20	238 32	238 45
30	237 48	238 2	238 15	238 29	238 42	238 55	239 7	239 20	239 32	239 44

North Latitude.

Ī	0	1	2	3	4	5	6	7	8	9
0	237° 48′	238° 2′	238° 15′	238° 29′	238° 42′	238° 55′	239° 7′	239° 20′	239° 32′	239° 44′
1	238 51	239 4	239 17	239 30	239 43	239 55	240 7	240 20	240 32	240 44
2	239 53	240 6	240 19	240 31	240 44	240 56	241 8	241 20	241 32	241 43
3	240 56	241 9	241 21	241 33	241 45	241 57	242 9	242 21	242 32	242 43
4	241 59	242 11	242 23	242 35	242 46	242 58	243 9	243 21	243 32	243 43
5	243 3	243 14	243 25	243 37	243 48	243 59	244 10	244 21	244 32	244 43
6	244 6	244 17	244 28	244 39	244 50	245 1	245 11	245 22	245 32	245 43
7	245 9	245 20	245 31	245 41	245 52	246 2	246 12	246 22	246 32	246 43
8	246 13	246 23	246 34	246 44	246 54	247 4	247 13	247 23	247 33	247 43
9	247 17	247 27	247 37	247 47	247 56	248 6	248 15	248 24	248 33	248 43
10	248 21	248 30	248 40	248 49	248 58	249 7	249 16	249 25	249 33	249 43
11	249 25	249 34	249 43	249 52	250 0	250 9	250 17	250 26	250 34	250 44
12	250 29	250 38	250 46	250 55	251 3	251 11	251 19	251 27	251 35	251 44
13	251 34	251 42	251 49	251 58	252 5	252 13	252 21	252 28	252 36	252 44
14	252 38	252 46	252 53	253 1	253 8	253 15	253 23	253 30	253 37	253 45
15	253 43	253 50	253 57	254 4	254 11	254 18	254 25	254 32	254 38	254 45
16	254 47	254 54	255 1	255 7	255 14	255 20	255 27	255 33	255 39	255 46
17	255 52	255 58	256 5	256 11	256 17	256 22	256 29	256 35	256 40	256 47
18	256 57	257 3	257 9	257 15	257 20	257 25	257 31	257 37	257 42	257 48
19	258 2	258 7	258 13	258 18	258 23	258 28	258 33	258 38	258 43	258 49
20	259 7	259 12	259 17	259 21	259 26	259 31	259 35	259 40	259 44	259 50
21	260 12	260 17	260 21	260 25	260 29	260 34	260 38	260 42	260 46	260 51
22	261 17	261 21	261 25	261 28	261 32	261 36	261 40	261 44	261 47	261 52
23	262 22	262 25	262 29	262 32	292 35	262 39	262 42	262 46	262 48	262 54
24	263 28	263 30	263 33	263 36	293 39	263 42	263 45	263 48	263 50	263 54
25	264 33	264 35	264 37	264 40	264 42	264 45	264 47	264 50	264 51	264 55
26	265 38	265 40	265 41	265 44	265 45	265 48	265 49	265 52	265 53	265 56
27	266 44	266 45	266 46	266 48	266 49	266 51	266 52	266 54	266 55	266 57
28	267 49	267 50	267 50	267 52	267 52	267 54	267 54	267 56	267 56	267 58
29	268 55	268 55	268 55	268 56	268 56	268 57	268 57	268 58	268 58	268 59
30	270 0	270 0	270 0	270 0	270 0	270 0	270 0	270 0	270 0	270 0

North Latitude.

♑	0	1	2	3	4	5	6	7	8	9
0	270° 0′	270° 0′	270° 0′	270° 0′	270° 0′	270° 0′	270° 0′	270° 0′	270° 0′	270° 0′
1	271 5	271 5	271 5	271 4	271 4	271 3	271 3	271 2	271 2	271 1
2	272 11	272 10	272 10	272 8	272 8	272 6	272 6	272 4	272 4	272 3
3	273 16	273 15	273 14	273 12	273 11	273 9	273 8	273 6	273 5	273 4
4	274 22	274 20	274 19	274 16	274 15	274 12	274 11	274 8	274 7	274 6
5	275 27	275 25	275 23	275 20	275 18	275 15	275 13	275 10	275 9	275 7
6	276 32	276 30	276 27	276 24	276 21	276 18	276 15	276 12	276 10	276 8
7	277 38	277 35	277 31	277 28	277 25	277 21	277 18	277 14	277 12	277 10
8	278 43	278 39	278 35	278 32	278 28	278 24	278 20	278 16	278 13	278 11
9	279 48	279 43	279 39	279 35	279 31	279 26	279 22	279 18	279 14	279 12
10	280 53	280 48	280 43	280 39	280 34	280 29	280 25	280 20	280 16	280 13
11	281 58	281 53	281 47	281 42	281 37	281 32	281 27	281 22	281 17	281 14
12	283 3	282 57	282 51	282 45	282 40	282 34	282 29	282 23	282 19	282 15
13	284 8	284 2	283 55	283 49	283 43	283 37	283 31	283 25	283 20	283 15
14	285 13	285 6	284 59	284 53	284 46	284 40	284 33	284 27	284 21	284 16
15	286 17	286 10	236 3	285 56	285 49	285 42	285 35	285 28	285 22	285 16
16	287 22	287 14	287 7	286 59	286 52	286 45	286 37	286 30	286 23	286 16
17	288 26	288 18	288 11	288 2	287 55	287 47	287 39	287 32	287 24	287 17
18	289 31	289 22	289 14	289 5	288 57	288 49	288 41	288 33	288 25	288 17
19	290 35	290 26	290 17	290 8	290 0	289 51	289 43	289 34	289 26	289 17
20	291 39	291 30	291 20	291 11	291 2	290 53	290 44	290 35	290 27	290 17
21	292 43	292 33	292 23	292 13	292 4	291 55	291 45	291 36	291 28	291 17
22	293 47	293 37	293 26	293 16	293 6	292 56	292 47	292 37	292 28	292 17
23	294 51	294 40	294 29	294 19	294 8	293 58	293 48	293 38	293 28	293 17
24	295 54	295 43	295 32	295 21	295 10	294 59	294 49	294 38	294 28	294 17
25	296 57	296 46	296 35	296 23	296 12	296 1	295 50	295 39	295 28	295 17
26	298 1	297 49	297 37	297 25	297 14	297 2	296 51	296 39	296 28	296 17
27	299 4	298 51	298 39	298 27	298 15	298 3	297 51	297 39	297 28	297 16
28	300 7	299 54	299 41	299 29	299 16	299 4	298 52	298 40	298 28	298 16
29	301 9	300 56	300 43	300 30	300 17	300 5	299 53	299 40	299 28	299 16
30	302 12	301 58	301 45	301 31	301 18	301 5	300 53	300 40	300 28	300 16

North Latitude.

♒	0	1	2	3	4	5	6	7	8	9
0	302° 12′	301° 58′	301° 45′	301° 31′	301° 18′	301° 5′	300° 53′	300° 40′	300° 28′	300° 16′
1	303 14	303 0	302 47	302 33	302 19	302 6	301 53	301 40	301 28	301 15
2	304 16	304 2	303 48	303 34	303 20	303 6	302 53	302 40	302 27	302 14
3	305 18	305 3	304 50	304 35	304 21	304 7	303 53	303 39	303 20	303 13
4	306 20	306 5	305 51	305 36	305 22	305 7	304 53	304 39	304 25	304 12
5	307 22	307 7	306 52	306 36	306 22	306 7	305 52	305 38	305 24	305 10
6	308 24	308 8	307 53	307 37	307 22	307 7	306 52	306 37	306 23	306 9
7	309 25	309 9	308 54	308 37	308 22	308 7	307 51	307 36	307 22	307 7
8	310 26	310 10	309 54	309 37	309 22	309 6	308 50	308 35	308 20	308 5
9	311 27	311 10	310 54	310 37	310 21	310 5	309 49	309 33	309 18	309 3
10	312 28	312 11	311 54	311 37	311 21	311 4	310 48	310 32	310 17	310 1
11	313 28	313 11	312 54	312 37	312 20	312 3	311 47	311 31	311 15	310 58
12	314 29	314 11	313 54	313 37	313 19	313 2	312 46	312 29	312 13	311 57
13	315 29	315 11	314 54	314 36	314 18	314 1	313 45	313 27	313 11	312 54
14	316 29	316 11	315 53	315 35	315 17	315 0	314 43	314 25	314 9	313 52
15	317 29	317 10	316 52	316 34	316 16	315 58	315 41	315 23	315 6	314 50
16	318 29	318 10	317 51	317 33	317 15	316 57	316 39	316 21	316 4	315 47
17	319 28	319 9	318 50	318 32	318 14	317 55	317 37	317 19	317 2	316 44
18	320 27	320 8	319 49	319 30	319 12	318 53	318 35	318 17	317 59	317 41
19	321 27	321 7	320 48	320 29	320 10	319 51	319 33	319 15	318 56	318 38
20	322 26	322 6	321 47	321 27	321 8	320 49	320 31	320 12	319 53	319 35
21	323 25	323 4	322 45	322 25	322 6	321 47	321 28	321 9	320 50	320 31
22	324 23	324 3	323 43	323 23	323 4	322 45	322 25	322 6	321 47	321 28
23	325 22	325 1	324 41	324 21	324 1	323 42	323 22	323 3	322 44	322 24
24	326 20	325 59	325 39	325 19	324 59	324 39	324 19	323 59	323 40	323 21
25	327 18	326 57	326 37	326 17	325 56	325 36	325 16	324 56	324 37	324 17
26	328 16	327 55	327 35	327 14	326 53	326 33	326 13	325 53	325 33	325 13
27	329 14	328 53	328 32	328 11	327 50	327 30	327 10	326 49	326 29	326 9
28	330 11	329 50	329 29	329 8	328 47	328 27	328 6	327 46	327 25	327 5
29	331 9	330 47	330 26	330 5	329 44	329 25	329 3	328 42	328 21	328 1
30	332 6	331 44	331 23	331 2	330 41	330 20	329 59	329 38	329 17	328 56

North Latitude.

♓	0	1	2	3	4	5	6	7	8	9
0	332° 6′	331° 44′	331° 23′	331° 2′	330° 41′	330° 20′	329° 59′	329° 38′	329° 17′	328° 56′
1	333 4	332 41	332 20	331 59	331 38	331 16	330 55	330 34	330 13	329 52
2	334 81	333 38	333 17	332 55	332 34	332 12	331 51	331 30	331 9	330 47
3	334 58	334 35	334 13	333 51	333 30	333 8	332 47	332 25	332 4	331 42
4	335 55	335 32	335 10	334 48	334 26	334 4	333 43	333 21	333 0	332 37
5	336 51	336 29	336 7	335 44	335 22	335 0	334 39	334 17	333 55	333 32
6	337 48	337 25	337 3	336 40	336 18	335 56	335 34	335 12	334 50	334 27
7	338 44	338 22	337 59	337 36	337 14	336 52	336 30	336 8	335 46	335 22
8	339 40	339 18	338 55	338 32	338 10	337 48	337 26	337 3	336 41	336 17
9	340 37	340 14	339 51	339 28	339 6	338 43	338 21	337 58	337 36	337 12
10	341 38	341 10	340 47	340 24	340 2	339 39	339 17	338 54	338 31	338 7
11	342 29	342 6	341 43	341 20	340 58	340 35	340 12	339 49	339 26	339 2
12	343 25	343 2	342 39	342 16	341 53	341 30	341 7	340 44	340 21	339 57
13	344 20	343 58	343 35	343 12	342 49	342 25	342 2	341 39	341 16	340 52
14	345 16	344 53	344 30	344 7	343 44	343 20	342 57	342 34	342 11	341 48
15	346 12	345 48	345 25	345 2	344 39	344 15	343 52	343 29	343 6	342 43
16	347 7	346 44	346 21	345 57	345 34	345 10	344 47	344 24	344 1	343 38
17	348 3	347 40	347 17	346 52	346 29	346 5	345 42	345 19	344 56	344 33
18	348 58	348 35	348 12	347 47	347 24	347 0	346 37	346 13	345 51	345 28
19	349 54	349 31	349 7	348 43	348 19	347 55	347 32	347 8	346 46	346 23
20	350 49	350 26	350 3	349 38	349 14	348 50	348 27	348 3	347 41	347 19
21	351 44	351 21	350 57	350 33	350 9	349 45	349 22	348 58	348 36	348 14
22	352 39	352 16	351 52	351 28	351 4	350 40	350 17	349 53	349 30	349 9
23	353 35	353 11	352 47	352 23	351 59	351 35	351 12	350 48	350 25	350 4
24	354 30	354 6	353 42	353 18	352 54	352 30	352 7	351 43	351 20	350 59
25	355 25	355 1	354 38	354 14	353 50	353 26	353 2	352 38	352 15	351 53
26	356 20	355 57	355 33	355 9	354 45	354 21	353 57	353 33	353 10	352 48
27	357 15	356 52	356 28	356 4	355 40	355 16	354 52	354 28	354 4	353 42
28	358 10	357 47	357 23	356 59	356 35	356 11	355 47	355 23	354 59	354 36
29	359 5	358 42	358 18	357 54	357 30	357 6	356 42	356 18	355 54	355 30
30	360 0	359 37	359 13	358 49	358 25	358 1	357 37	357 13	356 58	356 24

SOUTH LATITUDE.

	♈	0	1	2	3	4	5	6	7	8	9
	0	0° 0′	0° 23′	0° 47′	1° 11′	1° 35′	1° 59′	2° 23′	2° 47′	3° 12′	3° 36′
	1	0 55	1 18	1 42	2 6	2 30	2 54	3 18	3 42	4 6	4 30
	2	1 50	2 13	2 37	3 1	3 25	3 49	4 13	4 37	5 1	5 25
	3	2 45	3 8	3.32	3 56	4 20	4 44	5 8	5 32	5 56	6 20
	4	3 40	4 3	4 27	4 51	5 15	5 39	6 3	6 27	6 51	7 15
18.20	5	4 35	4 58	5 22	5 46	6 10	6 34	6 58	7 22	7 46	8 9
	6	5 30	5 54	6 18	6 42	7 6	7 30	7 53	8 17	8 41	9 4
	7	6 25	6 49	7 13	7 37	8 1	8 25	8 48	9 12	9 36	9 59
	8	7 21	7 44	8 8	8 32	8 56	9 20	9 43	10 7	10 30	10 53
	9	8 16	8 40	9 4	9 28	9 51	10 15	10 38	11 2	11 25	11 48
36.44	10	9 11	9 35	9 59	10 23	10 46	11 10	11 33	11 57	12 19	12 42
	11	10 6	10 30	10 54	11 18	11 41	12 5	12 28	12 52	13 14	13 37
	12	11 2	11 25	11 49	12 13	12 36	13 0	13 23	13 47	14 9	14 32
	13	11 57	12 20	12 44	13 8	13 31	13 55	14 18	14 41	15 4	15 27
	14	12 53	13 16	13 39	14 3	14 26	14 50	15 13	15 36	15 59	16 21
55.12	15	13 48	14 12	14 35	14 58	15 21	15 45	16 8	16 31	16 54	17 16
	16	14 44	15 7	15 30	15 53	16 16	16 40	17 3	17 26	17 49	18 11
	17	15 40	16 2	16 25	16 48	17 11	17 35	17 58	18 21	18 44	19 6
	18	16 35	16 58	17 21	17 44	18 7	18 30	18 53	19 16	19 39	20 1
	19	17 31	17 54	18 17	18 40	19 2	19 25	19 48	20 11	20 34	20 56
3.48	20	18 27	18 50	19 13	19 36	19 58	20 21	20 43	21 6	21 29	21 51
	21	19 23	19 46	20 9	20 23	20 54	21 17	21 39	22 2	22 24	22 46
	22	20 20	20 42	21 5	21 28	21 50	22 12	22 34	22 57	23 19	23 41
	23	21 16	21 38	22 1	22 24	22 46	23 8	23 30	23 52	24 14	24 36
	24	22 12	22 35	22 57	23 20	23 42	24 4	24 26	24 48	25 10	25 32
32.26	25	23 9	23 31	23 53	24 16	24 38	25 0	25 21	25 43	26 5	26 27
	26	24 6	24 28	24 50	25 12	25 34	25 55	26 17	26 39	27 0	27 22
	27	25 2	25 25	25 47	26 9	26 30	26 52	27 13	27 35	27 56	28 17
	28	25 59	26 22	26 43	27 5	27 26	27 48	28 9	28 30	28 51	29 12
	29	26 57	27 19	27 40	28 1	28 22	28 44	29 5	29 26	29 47	30 8
[illegible]	30	27 54	28 16	28 37	28 58	29 19	29 40	30 1	30 22	30 43	31 4

South Latitude.

	♉	0	1	2	3	4	5	6	7	8	9
	0	27° 54′	28° 16′	28° 37′	28° 58′	29° 19′	29° 40′	30° 1′	30° 22′	30° 43′	31° 4′
	1	28 51	29 13	29 34	29 55	30 16	30 37	30 57	31 18	31 39	31 59
	2	29 49	30 10	30 31	30 52	31 13	31 34	31 54	32 14	32 35	32 55
	3	30 46	31 7	31 28	31 49	32 10	32 31	32 51	33 11	33 31	33 51
	4	31 44	32 5	32 25	32 46	33 7	33 27	33 47	34 7	34 27	34 46
0. 48	5	32 42	33 3	33 23	33 43	34 4	34 24	34 44	35 4	35 23	35 42
	6	33 40	34 1	34 25	34 41	35 1	35 21	35 41	36 1	36 20	36 38
	7	34 38	34 59	35 19	35 39	35 58	36 18	36 38	36 57	37 16	37 34
	8	35 37	35 57	36 17	36 37	36 56	37 15	37 35	37 54	38 13	38 31
	9	36 36	36 56	37 15	37 35	37 54	38 13	38 32	38 51	39 10	39 28
[illegible]·16	10	37 34	37 54	38 13	38 33	38 52	39 11	39 29	39 48	40 7	40 25
	11	38 33	38 53	39 12	39 31	39 50	40 9	40 27	40 45	41 4	41 22
	12	39 33	39 52	40 11	40 30	40 48	41 7	41 25	41 43	42 1	42 18
	13	40 32	40 51	41 10	41 28	41 46	42 5	42 23	42 41	42 58	43 15
	14	41 31	41 50	42 9	42 27	42 45	43 3	43 21	43 39	43 56	44 12
[illegible] 4	15	42 31	42 50	43 8	43 26	43 44	44 2	44 19	44 38	44 54	45 10
	16	43 31	43 49	44 7	44 25	44 43	45 0	45 17	45 35	45 51	46 7
	17	44 31	44 49	45 6	45 24	45 42	45 59	46 15	46 33	46 49	47 4
	18	45 31	45 49	46 6	46 23	46 41	46 58	47 14	47 31	47 47	48 2
	19	46 32	46 49	47 6	47 23	47 40	47 57	48 13	48 29	48 45	48 59
	20	47 32	47 49	48 6	48 23	48 39	48 56	49 12	49 28	49 43	49 57
	21	48 33	48 50	49 6	49 23	49 39	49 55	50 11	50 27	50 41	50 55
	22	49 34	49 50	50 6	50 23	50 38	50 54	51 10	51 25	51 40	51 53
	23	50 35	50 51	51 6	51 23	51 38	51 53	52 9	52 24	52 38	52 51
	24	51 36	51 52	52 7	52 23	52 38	52 53	53 8	53 23	53 37	53 49
[illegible] 32	25	52 38	52 53	53 8	53 24	53 38	53 53	54 8	54 22	54 36	54 48
	26	53 40	53 55	54 9	54 24	54 38	54 53	55 7	55 21	55 35	55 47
	27	54 42	54 56	55 11	55 25	55 39	55 53	56 7	56 21	56 34	56 46
	28	55 44	55 58	56 12	56 26	56 40	56 54	57 7	57 20	57 33	57 45
	29	56 46	57 0	57 13	57 27	57 41	57 54	58 7	58 20	58 32	58 44
57. 1°	30	57 48	58 2	58 15	58 29	58 42	58 55	59 7	59 20	59 32	59 43

South Latitude.

II	0		1		2		3		4		5		6		7		8		9	
	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′
0	57	48	58	2	58	15	58	29	58	42	58	55	59	7	59	20	59	32	59	43
1	58	51	59	4	59	17	59	30	59	43	59	55	60	7	60	20	60	32	60	42
2	59	53	60	6	60	19	60	31	60	44	60	56	61	8	61	20	61	32	61	42
3	60	56	61	8	61	21	61	33	61	46	61	57	62	9	62	21	62	32	62	41
4	61	59	62	11	62	23	62	35	62	48	62	58	63	9	63	21	63	32	63	41
5	63	3	63	14	63	25	63	37	63	50	63	59	64	10	64	21	64	32	64	41
6	64	6	64	17	64	28	64	39	64	52	65	1	65	11	65	22	65	32	65	40
7	65	9	65	20	65	31	65	41	65	54	66	2	66	12	66	22	66	32	66	40
8	66	13	66	23	66	34	66	44	66	56	67	4	67	13	67	23	67	33	67	40
9	67	17	67	27	67	37	67	46	67	58	68	6	68	15	68	24	68	33	68	40
10	68	21	68	30	68	40	68	49	68	59	69	7	69	16	69	25	69	33	69	40
11	69	25	69	34	69	43	69	52	70	1	70	9	70	17	70	26	70	34	70	40
12	70	29	70	8	70	46	70	55	71	3	71	11	71	19	71	27	71	35	71	41
13	71	34	71	42	71	49	71	58	72	5	72	13	72	21	72	28	72	36	72	41
14	72	38	72	46	72	53	73	1	73	8	73	15	73	23	73	30	73	37	73	42
15	73	43	73	50	73	57	74	4	74	11	74	18	74	25	74	32	74	38	74	43
16	74	47	74	54	75	1	75	7	75	14	75	20	75	27	75	33	75	39	75	44
17	75	52	75	58	76	5	76	11	76	17	76	22	76	29	76	35	76	40	76	45
18	76	57	77	3	77	9	77	15	77	20	77	25	77	31	77	37	77	42	77	46
19	78	2	78	7	78	13	78	18	78	23	78	28	78	33	78	38	78	43	78	47
20	79	7	79	12	79	17	79	21	79	26	79	31	79	35	79	40	79	44	79	48
21	80	12	80	17	80	21	80	25	80	29	80	34	80	38	80	42	80	46	80	49
22	81	17	81	21	81	25	81	28	81	32	81	36	81	40	81	44	81	47	81	50
23	82	22	82	25	82	29	82	32	82	35	82	39	82	42	82	46	82	48	82	51
24	83	28	83	30	83	33	83	36	83	39	83	42	83	45	83	48	83	50	83	52
25	84	33	84	35	84	37	84	40	84	42	84	45	84	47	84	50	84	51	84	53
26	85	38	85	40	85	45	85	44	85	45	85	48	85	49	85	52	85	53	85	54
27	86	44	86	45	86	46	86	48	86	49	86	51	86	52	86	54	86	55	86	55
28	87	49	87	50	87	50	87	52	87	52	87	54	87	54	87	56	87	56	87	57
29	88	55	88	55	88	55	88	56	88	56	88	57	88	57	88	58	88	58	88	58
30	90	0	90	0	90	0	90	0	90	0	90	0	90	0	90	0	90	0	90	0

SOUTH LATITUDE.

♋	0	1	2	3	4	5	6	7	8	9
	° '	° '	° '	° '	° '	° '	° '	° '	° '	° '
0	90 0	90 0	90 0	90 0	90 0	90 0	90 0	90 0	90 0	90 0
1	91 5	91 5	91 5	91 4	91 4	91 3	91 3	91 2	91 2	91 2
2	92 11	92 10	92 10	92 8	92 8	92 6	92 6	92 4	92 4	92 3
3	93 16	93 15	93 14	93 12	93 11	93 9	93 8	93 6	93 5	93 5
4	94 22	94 20	94 19	94 16	94 15	94 12	94 11	94 8	94 7	94 6
5	95 27	95 25	95 23	95 20	95 18	95 15	95 13	95 10	95 9	95 7
6	96 32	96 30	96 27	96 24	96 21	96 18	96 15	96 12	96 10	96 8
7	97 38	97 35	97 31	97 28	97 25	97 21	97 18	97 14	97 12	97 9
8	98 43	98 39	98 35	98 32	98 28	98 24	98 20	98 16	98 13	98 10
9	99 48	99 43	99 39	99 35	99 31	99 26	99 22	99 18	99 14	99 11
10	100 53	100 48	100 43	100 39	100 34	100 29	100 25	100 20	100 16	100 12
11	101 58	101 53	101 47	101 42	101 37	101 32	101 27	101 22	101 17	101 12
12	103 3	102 57	102 51	102 45	102 40	102 34	102 29	102 23	102 18	102 13
13	104 8	104 2	103 55	103 49	103 43	103 37	103 31	103 25	103 20	103 14
14	105 13	105 6	104 59	104 52	104 46	104 40	104 33	104 27	104 21	104 15
15	106 17	106 10	106 3	105 56	105 49	105 42	105 35	105 28	105 22	105 15
16	107 22	107 14	107 7	106 59	106 52	106 45	106 37	106 30	106 23	106 15
17	108 26	108 18	108 11	108 2	107 55	107 47	107 39	107 32	107 24	107 15
18	109 31	109 22	109 14	109 5	108 57	108 49	108 41	108 33	108 25	108 16
19	110 35	110 26	110 17	110 8	110 0	109 51	109 43	109 34	109 26	109 16
20	111 39	111 30	111 20	111 11	111 2	110 53	110 44	110 35	110 27	110 16
21	112 43	112 33	112 23	112 13	112 4	111 54	111 45	111 36	111 27	111 16
22	113 47	113 37	113 26	113 16	113 6	112 56	112 47	112 37	112 27	112 17
23	114 51	114 40	114 29	114 19	114 8	113 58	113 48	113 38	113 28	113 17
24	115 54	115 43	115 32	115 21	115 10	114 59	114 49	114 38	114 28	114 17
25	116 57	116 46	116 35	116 23	116 12	116 1	115 50	115 39	115 28	115 17
26	118 1	117 49	117 37	117 25	117 14	117 2	116 51	116 39	116 28	116 17
27	119 4	118 51	118 39	118 27	118 15	118 3	117 52	117 39	117 28	117 16
28	120 7	119 54	119 41	119 29	119 16	119 4	118 52	118 40	118 28	118 16
29	121 9	120 56	120 43	120 30	120 17	120 5	119 53	119 40	119 28	119 15
30	122 12	121 58	121 45	121 31	121 18	121 5	120 53	120 40	120 28	120 15

South Latitude.

♌	0	1	2	3	4	5	6	7	8	9
	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′
0	122 12	121 58	121 45	121 31	121 18	121 5	120 53	120 40	120 28	120 15
1	123 14	123 0	122 47	122 33	122 19	122 6	121 53	121 40	121 29	121 15
2	124 16	124 2	123 48	123 34	123 20	123 6	122 53	122 40	122 27	122 14
3	125 18	125 3	124 49	124 35	124 21	124 7	123 53	123 39	123 26	123 13
4	126 20	126 5	125 51	125 36	125 22	125 7	124 53	124 39	124 25	124 12
5	127 22	127 7	126 52	126 36	126 22	126 7	125 52	125 38	125 24	125 11
6	128 24	128 8	127 53	127 37	127 22	127 7	126 52	126 37	126 23	126 0
7	129 25	129 9	128 54	128 37	128 22	128 7	127 51	127 36	127 22	127 7
8	130 26	130 10	129 54	129 37	129 22	129 6	128 50	128 35	128 20	128 3
9	131 27	131 10	130 54	130 37	130 21	130 5	129 49	129 33	129 18	129 5
10	132 28	132 11	131 54	131 37	131 21	131 4	130 48	130 32	130 17	130 1
11	133 28	133 11	132 54	132 37	132 20	132 3	131 47	131 31	131 15	130 58
12	134 29	134 11	133 54	133 37	133 19	133 2	132 46	132 29	132 13	131 56
13	135 29	135 11	134 54	134 36	134 18	134 1	133 45	133 27	133 11	132 54
14	136 29	136 11	135 53	135 35	135 17	135 0	134 43	134 25	134 9	133 51
15	137 29	137 10	136 52	136 34	136 16	135 58	135 41	135 23	135 6	134 48
16	138 29	138 10	137 51	137 33	137 15	136 57	136 39	136 21	136 4	135 45
17	139 28	139 9	138 50	138 32	138 14	137 55	137 37	137 19	137 2	136 42
18	140 28	140 8	139 49	139 30	139 13	138 53	138 35	138 17	137 59	137 39
19	141 27	141 7	140 48	140 29	140 10	139 51	139 33	139 15	138 56	138 36
20	142 26	142 6	141 47	141 27	141 8	140 49	140 31	140 12	139 53	139 33
21	143 25	143 4	142 45	142 25	142 6	141 47	141 28	141 9	140 50	140 30
22	144 23	144 3	143 43	143 23	143 4	142 45	142 25	142 6	141 47	141 27
23	145 22	145 1	144 41	144 21	144 2	143 42	143 22	143 3	142 44	142 24
24	146 20	145 59	145 39	145 19	144 59	144 39	144 19	143 59	143 40	143 20
25	147 18	146 57	146 37	146 17	145 56	145 36	145 16	144 56	144 37	144 16
26	148 16	147 55	147 35	147 14	146 53	146 33	146 13	145 53	145 33	145 12
27	149 14	148 53	148 32	148 11	147 50	147 29	147 9	146 49	146 29	146 8
28	150 11	149 50	149 29	149 8	148 47	148 26	148 6	147 46	147 25	147 4
29	151 9	150 47	150 26	150 5	149 44	149 23	149 3	148 42	148 21	148 0
30	152 6	151 44	151 23	151 2	150 41	150 20	149 59	149 38	149 17	148 56

South Latitude.

♍	0	1	2	3	4	5	6	7	8	9
0	152° 6′	151° 44′	151° 23′	151° 2′	150° 41′	150° 20′	149° 59′	149° 38′	149° 17′	148° 56′
1	153 4	152 41	152 20	151 59	151 38	151 16	150 55	150 34	150 13	149 52
2	154 1	153 38	153 17	152 55	152 34	152 12	151 51	151 30	151 9	150 48
3	154 58	154 35	154 13	153 51	153 30	153 8	152 47	152 25	152 4	151 43
4	155 54	155 32	155 10	154 48	154 26	154 4	153 43	153 21	153 0	152 38
5	156 51	156 29	156 7	155 44	155 22	155 0	154 39	154 17	153 55	153 33
6	157 48	157 25	157 3	156 40	156 18	155 56	155 34	155 12	154 50	154 28
7	158 44	158 22	157 59	157 36	157 14	156 52	156 30	156 8	155 46	155 23
8	159 40	159 18	158 55	158 32	158 10	157 48	157 26	157 3	156 41	156 18
9	160 37	160 14	159 51	159 28	159 6	158 43	158 21	157 58	157 36	157 13
10	161 33	161 10	160 47	160 24	160 2	159 39	159 17	158 54	158 31	158 8
11	162 29	162 6	161 43	161 20	160 58	160 35	160 12	159 49	159 26	159 3
12	163 25	163 2	162 39	162 16	161 53	161 30	161 7	160 44	160 21	159 58
13	164 20	163 58	163 35	163 12	162 49	162 25	162 2	161 39	161 16	160 53
14	165 16	164 53	164 30	164 7	163 44	163 20	162 57	162 34	162 11	161 48
15	166 12	165 48	165 25	165 2	164 39	164 15	163 52	163 29	163 6	162 43
16	167 7	166 44	166 21	165 57	165 34	165 10	164 47	164 24	164 1	163 38
17	168 3	167 40	167 17	166 52	166 29	166 5	165 42	165 19	164 56	164 33
18	168 58	168 35	168 12	167 47	167 24	167 0	166 37	166 13	165 51	165 28
19	169 54	169 31	169 7	168 43	168 19	167 55	167 32	167 8	166 46	166 23
20	170 49	170 26	170 2	169 38	169 14	168 50	168 27	168 3	167 41	167 17
21	171 44	171 21	170 57	170 33	170 9	169 45	169 22	168 58	168 35	168 12
22	172 39	172 16	171 52	171 28	171 4	170 40	170 17	169 53	169 30	169 7
23	173 35	173 11	172 47	172 23	171 59	171 35	171 12	170 48	170 25	170 1
24	174 30	174 6	173 42	173 18	172 54	172 30	172 7	171 43	171 20	170 56
25	175 25	175 2	174 38	174 14	173 50	173 26	173 2	172 38	172 15	171 51
26	176 20	175 57	175 33	175 9	174 45	174 21	173 57	173 33	173 10	172 45
27	177 15	176 52	176 28	176 4	175 40	175 16	174 52	174 28	174 4	173 40
28	178 10	177 47	177 23	176 59	176 35	176 11	175 47	175 23	174 59	174 34
29	179 5	178 42	178 18	177 54	177 30	177 6	176 42	176 18	175 54	175 29
30	180 0	179 37	179 13	178 49	178 25	178 1	177 37	177 13	176 48	176 24

SOUTH LATITUDE.

♎	0	1	2	3	4	5	6	7	8	9
	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′
0	180 0	179 37	179 13	178 49	178 25	178 1	177 37	177 13	176 48	176 24
1	180 55	180 32	180 8	179 44	179 20	178 56	178 32	178 8	177 43	177 19
2	181 50	181 27	181 3	180 39	180 15	179 51	179 27	179 3	178 38	178 14
3	182 45	182 22	181 58	181 34	181 10	180 46	180 22	179 58	179 34	179 9
4	183 40	183 17	182 53	182 29	182 5	181 41	181 17	180 53	180 29	180 5
5	184 35	184 12	183 48	183 24	183 0	182 36	182 12	181 48	181 24	181 0
6	185 30	185 7	184 43	184 19	183 55	183 31	183 7	182 43	182 19	181 55
7	186 25	186 2	185 38	185 14	184 50	184 26	184 2	183 38	183 14	182 50
8	187 21	186 57	186 33	186 9	185 45	185 21	184 57	184 33	184 9	183 45
9	188 16	187 52	187 28	187 4	186 40	186 16	185 52	185 28	185 4	184 41
10	189 11	188 47	188 23	187 59	187 35	187 11	186 47	186 23	185 59	185 36
11	190 6	189 42	189 18	188 55	188 31	188 7	187 43	187 18	186 55	186 32
12	191 2	190 38	190 14	189 51	189 27	189 3	188 39	188 14	187 51	187 27
13	191 57	191 33	191 9	190 46	190 22	189 58	189 34	189 10	188 46	188 23
14	192 53	192 29	192 5	191 42	191 18	190 54	190 30	190 6	189 42	189 18
15	193 48	193 25	193 1	192 38	192 14	191 50	191 26	191 2	190 38	190 14
16	194 44	194 20	193 57	193 34	193 10	192 46	192 22	191 58	191 34	191 10
17	195 40	195 16	194 53	194 30	194 6	193 42	193 18	192 54	192 30	192 6
18	196 35	196 12	195 49	195 26	195 2	194 39	194 15	193 51	193 27	193 2
19	197 31	197 8	196 45	196 22	195 58	195 35	195 11	194 47	194 23	193 58
20	198 27	198 4	197 41	197 18	196 54	196 31	196 7	195 44	195 20	194 55
21	199 23	199 0	198 37	198 14	197 51	197 28	197 4	196 41	196 17	195 52
22	200 20	199 56	199 33	199 11	198 48	198 25	198 1	197 38	197 14	196 44
23	201 16	200 53	200 30	200 8	199 45	199 22	198 58	198 35	198 11	197 46
24	202 12	201 50	201 27	201 5	200 42	200 19	199 55	199 32	199 8	198 44
25	203 9	202 47	202 24	202 2	201 39	201 16	200 52	200 29	200 5	199 41
26	204 6	203 44	203 21	202 59	202 36	202 13	201 50	201 27	201 3	200 39
27	205 2	204 41	204 19	203 57	203 34	203 11	202 48	202 25	202 1	201 37
28	205 59	205 38	205 16	204 54	204 31	204 9	203 46	203 23	202 59	202 36
29	206 57	206 35	206 13	205 51	205 29	205 7	204 44	204 21	203 57	203 34
30	207 54	207 33	207 11	206 49	206 27	206 5	205 42	205 19	204 56	204 33

South Latitude.

♍	0	1	2	3	4	5	6	7	8	9
0	207° 54′	207° 33′	207° 11′	206° 49′	206° 27′	206° 5′	205° 42′	205° 19′	204° 56′	204° 33′
1	208 51	208 30	208 8	207 47	207 25	207 3	206 40	206 17	205 54	205 31
2	209 49	209 27	209 6	208 45	208 23	208 1	207 38	207 16	206 53	206 30
3	210 46	210 25	210 4	209 43	209 21	208 59	208 37	208 15	207 52	207 29
4	211 44	211 23	211 2	210 41	210 18	209 58	209 36	209 14	208 51	208 28
5	212 42	212 21	212 0	211 39	211 19	210 57	210 35	210 13	209 50	209 28
6	213 30	213 20	212 59	212 38	212 17	211 56	211 34	211 12	210 50	210 28
7	214 38	214 18	213 58	213 37	213 16	212 55	212 33	212 12	211 50	211 28
8	215 37	215 17	214 57	214 36	214 15	213 54	213 33	213 12	212 50	212 28
9	216 36	216 16	215 56	215 36	215 15	214 54	214 33	214 12	213 51	213 29
10	217 34	217 15	216 55	216 35	216 15	215 54	215 33	215 12	214 51	214 30
11	218 33	218 14	217 55	217 25	217 35	216 54	216 33	216 13	215 52	215 31
12	219 33	219 14	218 54	218 35	218 15	217 55	217 34	217 14	216 53	216 32
13	220 32	220 13	219 54	219 35	219 15	218 56	218 35	218 15	217 54	217 34
14	221 31	221 13	220 54	220 35	220 16	219 57	219 36	219 16	218 56	218 36
15	222 31	222 13	221 54	221 36	221 17	220 58	220 38	220 18	219 58	219 38
16	223 31	223 13	222 54	222 36	222 18	221 59	221 39	221 19	221 0	220 40
17	224 31	224 13	223 55	223 37	223 19	223 0	222 40	222 21	222 2	221 43
18	225 31	225 14	224 56	224 38	224 20	224 1	223 42	223 23	223 4	222 46
19	226 32	226 14	225 57	225 39	225 21	225 3	224 44	224 25	224 7	223 49
20	227 32	227 15	226 58	226 40	226 23	226 5	225 46	225 28	225 10	224 52
21	228 33	228 16	227 59	227 42	227 25	227 7	226 49	226 31	226 13	225 55
22	229 34	229 17	229 0	228 44	228 27	228 9	227 52	227 34	227 16	226 59
23	230 35	230 18	230 2	229 46	229 29	229 12	228 55	228 37	228 20	228 3
24	231 36	231 20	231 4	230 48	230 32	230 15	229 58	229 41	229 24	229 7
25	232 38	232 22	232 6	231 51	231 35	231 18	231 2	230 45	230 28	230 12
26	233 40	233 24	233 9	232 54	232 38	232 22	232 6	231 49	231 33	231 17
27	234 41	234 27	234 12	233 57	233 42	233 26	233 10	232 54	232 38	232 22
28	235 43	235 29	235 15	235 0	234 45	234 30	234 14	233 58	233 43	233 27
29	236 46	236 32	236 18	236 3	235 49	235 34	235 18	235 3	234 48	234 32
30	237 48	237 36	237 21	237 7	236 53	236 38	236 23	236 8	235 55	235 38

SOUTH LATITUDE.

↕	0	1	2	3	4	5	6	7	8	9
	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′
0	237 48	237 35	237 21	237 7	236 53	236 38	236 23	236 8	235 53	235 38
1	238 51	238 38	238 24	238 10	237 57	237 42	237 28	237 13	236 59	236 45
2	239 53	239 41	239 28	239 14	239 1	238 47	238 33	238 19	238 5	237 51
3	240 56	240 44	240 31	240 18	240 5	239 52	239 38	239 25	239 11	238 58
4	241 59	241 47	241 35	241 22	241 10	240 57	240 44	240 31	240 17	240 5
5	243 3	242 51	242 39	242 27	242 15	242 2	241 50	241 37	241 24	241 12
6	244 6	243 55	243 43	243 32	243 20	243 8	242 56	242 44	242 31	242 19
7	245 9	244 59	244 47	244 37	244 25	244 13	244 2	243 50	243 38	243 26
8	246 13	246 3	245 52	245 42	245 30	245 19	245 8	244 56	244 45	244 34
9	247 17	247 7	246 57	246 47	246 36	246 25	246 14	246 3	245 52	245 41
10	248 21	248 11	248 2	247 52	247 42	247 31	247 21	247 10	247 0	246 49
11	249 25	249 16	249 7	248 57	248 48	248 38	248 28	248 18	248 8	247 47
12	250 29	250 21	250 12	250 3	249 54	249 45	249 35	249 26	249 16	249 6
13	251 34	251 26	251 17	251 9	251 0	250 51	250 42	250 33	250 24	250 14
14	252 38	252 31	252 22	252 15	252 6	251 58	251 49	251 41	251 32	251 23
15	253 43	253 36	253 28	253 21	253 13	253 5	252 57	252 49	252 41	252 32
16	254 47	254 41	254 33	254 27	254 19	254 12	254 4	253 57	253 49	253 41
17	255 52	255 46	255 39	255 33	255 26	255 19	255 12	255 6	254 58	254 51
18	256 57	256 51	256 45	256 39	256 33	256 27	256 20	256 14	256 7	256 0
19	258 2	257 56	257 51	257 45	257 40	257 34	257 28	257 22	257 16	257 10
20	259 7	259 2	258 57	258 52	258 47	258 41	258 36	258 30	258 25	258 20
21	260 12	260 8	260 3	259 59	259 54	259 49	259 44	259 38	259 34	259 30
22	261 17	261 13	261 9	261 5	261 1	260 56	260 52	260 48	260 43	260 40
23	262 22	262 18	262 15	262 11	262 8	262 4	262 0	261 57	261 52	261 50
24	263 28	263 24	263 21	263 18	263 15	263 12	263 9	263 6	263 2	263 0
25	264 33	264 30	264 27	264 25	264 22	264 20	264 17	264 15	264 11	264 10
26	265 38	265 36	265 33	265 32	265 29	265 28	265 26	265 24	265 21	265 20
27	266 44	266 42	266 40	266 32	266 37	266 36	266 34	266 33	266 31	266 30
28	267 49	267 48	267 46	267 46	267 44	267 44	267 43	267 42	267 40	267 40
29	268 55	268 54	268 53	268 53	268 52	268 52	268 52	268 51	268 50	268 50
30	270 0	270 0	270 0	270 0	270 0	270 0	270 0	270 0	270 0	270 0

South Latitude.

♑	0	1	2	3	4	5	6	7	8	9
0	270° 0′	270° 0′	270° 0′	270° 0′	270° 0′	270° 0′	270° 0′	270° 0′	270° 0′	270° 0′
1	271 5	271 6	271 7	271 7	271 8	271 8	271 9	271 9	271 10	271 10
2	272 11	272 12	272 14	272 15	272 16	272 16	272 18	272 18	272 20	272 20
3	273 16	273 18	273 20	273 23	273 23	273 24	273 26	273 27	273 29	273 30
4	274 22	274 24	274 26	274 31	274 31	274 32	274 34	274 36	274 39	274 40
5	275 27	275 30	275 33	275 38	275 38	275 40	275 43	275 45	275 48	275 50
6	276 32	276 36	276 39	276 45	276 45	276 48	276 51	276 54	276 58	277 0
7	277 38	277 41	277 45	277 52	277 52	277 56	278 0	278 3	278 7	278 10
8	278 43	278 47	278 51	278 59	278 59	279 4	279 8	279 12	279 17	279 20
9	279 48	279 52	279 57	280 6	280 6	280 11	280 16	280 21	280 26	280 30
10	280 53	280 58	281 3	281 13	281 13	281 19	281 24	281 30	281 35	281 40
11	281 58	282 4	282 9	282 20	282 20	282 26	282 32	282 38	282 44	282 50
12	283 3	283 9	283 15	283 27	283 27	283 33	283 40	283 46	283 53	283 59
13	284 8	284 14	284 21	284 34	284 34	284 41	284 48	284 55	285 2	285 9
14	285 13	285 19	285 27	285 41	285 41	285 48	285 56	286 3	286 11	286 19
15	286 17	286 24	286 32	286 47	286 47	286 55	287 3	287 11	287 19	287 28
16	287 22	287 29	287 38	287 54	287 54	288 2	288 11	288 19	288 28	288 37
17	288 26	288 34	288 43	289 0	288 0	289 9	289 18	289 27	289 36	289 45
18	289 31	289 39	289 48	290 6	290 6	290 15	290 25	290 34	290 44	290 54
19	290 35	290 44	290 53	291 12	291 12	291 22	291 32	291 42	291 52	292 2
20	291 39	291 49	291 58	292 18	292 18	292 29	292 39	292 50	293 0	293 11
21	292 43	292 53	293 3	293 24	293 24	293 35	293 46	293 57	294 8	294 19
22	293 47	293 57	294 8	294 30	294 30	294 41	294 52	295 4	295 15	295 27
23	294 51	295 1	295 13	295 35	295 35	295 47	295 58	296 10	296 22	296 35
24	295 54	296 5	296 17	296 40	296 40	296 53	297 4	297 16	297 29	297 42
25	296 57	297 9	297 21	297 45	297 45	297 58	298 10	298 23	298 36	298 50
26	298 1	298 13	298 25	298 50	298 50	299 3	299 16	299 29	299 43	299 57
27	299 4	299 16	299 29	299 55	299 55	300 8	300 22	300 35	300 49	301 4
28	300 7	300 19	300 33	300 59	300 59	301 13	301 27	301 41	301 55	302 10
29	301 9	301 22	301 36	302 3	302 3	302 18	302 32	302 47	303 1	303 16
30	302 12	302 25	302 39	303 7	303 7	303 22	303 37	303 52	304 7	304 22

South Latitude.

♒	0	1	2	3	4	5	6	7	8	9
	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′
0	302 12	302 25	302 39	302 53	303 7	303 22	303 37	303 52	304 7	304 22
1	303 14	303 28	303 42	303 57	304 11	304 26	304 42	304 57	305 12	305 28
2	304 16	304 31	304 45	305 3	305 15	305 30	305 46	306 2	306 17	306 33
3	305 18	305 33	305 48	306 3	306 18	306 34	306 50	307 7	307 22	307 38
4	306 20	306 36	306 51	307 6	307 22	307 38	307 54	308 11	308 27	308 43
5	307 22	307 38	307 54	308 9	308 25	308 42	308 58	309 15	309 32	309 48
6	308 24	308 40	308 56	309 12	309 28	309 45	310 2	310 19	310 36	310 53
7	309 25	309 42	309 58	310 14	310 31	310 48	311 5	311 23	311 40	311 57
8	310 26	310 43	311 0	311 16	311 33	311 51	312 8	312 26	312 44	313 1
9	311 27	311 44	312 1	312 18	312 35	312 53	313 11	313 29	313 47	314 5
10	312 28	312 45	313 2	313 20	313 37	313 55	314 14	314 32	314 50	315 8
11	313 28	313 46	314 3	314 21	314 39	314 57	315 16	315 35	315 53	316 11
12	314 29	314 46	315 4	315 22	315 40	315 59	316 18	316 37	316 56	317 14
13	315 29	315 47	316 5	316 23	316 41	317 0	317 20	317 39	317 58	318 17
14	316 29	316 47	317 6	317 24	317 42	318 1	318 21	318 41	319 0	319 19
15	317 29	317 47	318 6	318 24	318 43	319 2	319 22	319 42	320 2	320 22
16	318 29	318 47	319 6	319 25	319 44	320 3	320 24	320 44	321 4	321 24
17	319 28	319 47	320 6	320 25	320 45	321 4	321 25	321 45	322 6	322 26
18	320 27	320 46	321 6	321 25	321 45	322 5	322 26	322 46	323 7	323 28
19	321 27	321 46	322 6	322 25	322 45	323 6	323 27	323 47	324 8	324 29
20	322 26	322 45	323 4	323 25	323 45	324 6	324 27	324 48	325 9	325 30
21	323 25	323 44	324 5	324 24	324 45	325 6	325 27	325 48	326 9	326 31
22	324 23	324 43	325 3	325 24	325 45	326 6	326 27	326 48	327 10	327 31
23	325 22	325 42	326 2	326 23	326 44	327 5	327 27	327 48	328 10	328 31
24	326 20	326 40	327 0	327 22	327 43	328 4	328 26	328 48	329 10	329 31
25	327 18	327 39	328 1	328 21	328 42	329 3	329 25	329 47	330 10	330 31
26	328 16	328 37	328 58	329 19	329 41	330 2	330 24	330 46	331 9	331 30
27	329 14	329 35	329 56	330 17	330 39	331 1	331 23	331 45	332 8	332 30
28	330 11	330 33	330 54	331 15	331 37	331 59	332 22	332 44	333 7	333 29
29	331 9	331 30	331 52	332 13	332 35	332 57	333 20	333 43	334 6	334 28
30	332 6	332 27	332 49	333 11	333 33	333 55	334 18	334 41	335 4	335 27

SOUTH LATITUDE.

♓	0	1	2	3	4	5	6	7	8	9
0	332° 6′	332° 28′	332° 49′	333° 11′	333° 33′	333° 55′	334° 18′	334° 41′	335° 4′	335° 27′
1	333 4	333 25	333 47	334 9	334 31	334 53	335 16	335 39	336 3	336 26
2	334 1	334 22	334 44	335 6	335 29	335 51	336 14	336 37	337 1	337 25
3	334 58	335 19	335 41	336 3	336 26	336 49	337 12	337 35	337 59	338 23
4	335 55	336 16	336 39	337 1	337 24	337 47	338 10	338 33	338 57	339 21
5	336 51	337 13	337 36	337 58	338 21	338 44	339 8	339 31	339 55	340 18
6	337 48	338 10	338 33	338 55	339 18	339 41	340 5	340 28	340 52	341 16
7	338 44	339 7	339 30	339 52	340 15	340 38	341 2	341 25	341 49	342 13
8	339 40	340 4	340 27	340 49	341 12	341 35	341 59	342 22	342 46	343 10
9	340 37	341 0	341 23	341 46	342 9	342 32	342 56	343 19	343 43	344 7
10	341 33	341 56	342 19	342 42	343 6	343 29	343 53	344 16	344 40	345 4
11	342 29	342 52	343 15	343 38	344 2	344 25	344 49	345 13	345 37	346 1
12	343 25	343 48	344 11	344 34	344 58	345 21	345 45	346 9	346 33	346 58
13	344 20	344 44	345 7	345 30	345 54	346 18	346 42	347 6	347 30	347 54
14	345 16	345 40	346 3	346 26	346 50	347 14	347 38	348 2	348 26	348 50
15	346 12	346 35	346 59	347 22	347 46	348 10	348 34	348 58	349 22	349 46
16	347 7	347 31	347 55	348 18	348 42	349 6	349 30	349 54	350 18	350 42
17	348 3	348 27	348 51	349 14	349 38	350 2	350 26	350 50	351 14	351 38
18	348 58	349 22	349 46	350 9	350 33	350 57	351 21	351 45	352 9	352 33
19	349 54	350 18	350 42	351 5	351 29	351 53	352 17	352 41	353 5	353 29
20	350 49	351 13	351 37	352 1	352 25	352 49	353 13	353 37	354 1	354 24
21	351 44	352 8	352 32	352 56	353 20	353 44	354 8	354 32	354 56	355 20
22	352 39	353 3	353 27	353 51	354 15	354 30	355 3	355 27	355 51	356 15
23	353 35	353 58	354 22	354 46	355 10	355 34	355 58	356 22	356 46	357 10
24	354 30	354 53	355 17	355 41	356 5	356 29	356 53	357 17	357 41	358 6
25	355 25	355 48	356 12	356 36	357 0	357 24	357 48	358 12	358 36	359 1
26	356 20	356 43	357 7	357 31	357 55	358 19	358 43	359 7	359 31	359 56
27	357 15	357 38	358 2	358 26	358 50	359 14	359 38	360 2	360 26	360 52
28	358 10	358 33	358 57	359 21	359 45	360 9	360 33	360 57	361 22	361 47
29	359 5	359 28	359 52	360 16	360 40	361 4	361 28	361 52	362 17	362 42
30	360 0	360 23	360 47	361 11	361 35	361 59	362 23	362 47	363 12	363 37

ELEVATION OF THE POLE.

Declination.	1		2		3		4		5		6		7		8		9		10	
°	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′
1	0	1	0	2	0	3	0	4	0	5	0	6	0	7	0	8	0	9	0	11
2	0	2	0	4	0	6	0	8	0	10	0	13	0	15	0	17	0	19	0	21
3	0	3	0	6	0	9	0	13	0	16	0	19	0	22	0	25	0	29	0	32
4	0	4	0	8	0	13	0	17	0	21	0	25	0	30	0	34	0	38	0	42
5	0	5	0	10	0	16	0	21	0	26	0	32	0	37	0	42	0	48	0	53
6	0	6	0	13	0	19	0	25	0	32	0	38	0	44	0	51	0	57	1	4
7	0	7	0	15	0	22	0	30	0	37	0	44	0	52	0	59	1	7	1	14
8	0	8	0	17	0	25	0	34	0	42	0	51	0	59	1	8	1	16	1	25
9	0	9	0	19	0	29	0	38	0	48	0	57	1	7	1	16	1	26	1	36
10	0	11	0	21	0	32	0	42	0	53	1	4	1	14	1	25	1	36	1	47
11	0	12	0	23	0	35	0	47	0	58	1	10	1	22	1	34	1	46	1	58
12	0	13	0	25	0	38	0	51	1	4	1	17	1	30	1	43	1	56	2	9
13	0	14	0	28	0	42	0	56	1	9	1	23	1	37	1	52	2	6	2	20
14	0	15	0	30	0	45	1	0	1	15	1	30	1	45	2	1	2	16	2	31
15	0	16	0	32	0	48	1	4	1	21	1	37	1	53	2	10	2	26	2	42
16	0	17	0	34	0	52	1	9	1	26	1	44	2	1	2	19	2	36	2	54
17	0	18	0	37	0	55	1	14	1	32	1	50	2	9	2	28	2	47	3	5
18	0	19	0	39	0	59	1	18	1	38	1	57	2	17	2	37	2	57	3	17
19	0	21	0	41	1	2	1	23	1	44	2	4	2	25	2	46	3	8	3	29
20	0	22	0	44	1	6	1	27	1	49	2	12	2	34	2	56	3	18	3	41
21	0	23	0	46	1	9	1	32	1	55	2	19	2	41	3	6	3	29	3	53
22	0	24	0	49	1	13	1	37	2	2	2	26	2	50	3	15	3	40	4	5
23	0	25	0	51	1	17	1	42	2	8	2	33	2	59	3	25	3	51	4	18
24	0	27	0	53	1	20	1	47	2	14	2	41	3	9	3	35	4	3	4	30
25	0	28	0	56	1	24	1	52	2	20	2	49	3	17	3	45	4	14	4	43
26	0	29	0	59	1	28	1	57	2	27	2	56	3	26	3	56	4	26	4	56
27	0	31	1	1	1	32	1	3	2	33	3	4	3	35	4	6	4	38	5	9
28	0	32	1	4	1	36	2	8	2	40	3	12	3	45	4	17	4	50	5	23
29	0	33	1	7	1	40	2	13	2	47	3	20	3	54	4	28	5	2	5	37
30	0	35	1	9	1	44	2	19	2	54	3	29	4	4	4	39	5	15	5	51
31	0	36	1	12	1	48	2	24	3	1	3	37	4	14	4	51	5	28	6	5
32	0	37	1	15	1	53	2	30	3	8	3	46	4	24	5	2	5	41	6	20

Elevation of the Pole.

Declination.	1	2	3	4	5	6	7	8	9	10
°	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′
33	0 39	1 18	1 57	2 36	3 15	3 55	4 34	5 14	5 54	6 35
34	0 40	1 21	2 2	2 42	3 23	4 4	4 45	5 26	6 8	6 50
35	0 42	1 24	2 6	2 48	3 31	4 13	4 56	5 39	6 22	7 6
36	0 44	1 27	2 11	2 55	3 39	4 23	5 7	5 52	6 36	7 22
37	0 45	1 30	2 16	3 2	3 47	4 33	5 11	6 5	6 51	7 38
38	0 47	1 34	2 21	3 8	3 55	4 45	5 30	6 18	7 6	7 55
39	0 49	1 37	2 26	3 15	4 4	4 53	5 42	6 32	7 22	8 13
40	0 50	1 41	2 31	3 22	4 13	5 4	5 55	6 46	7 38	8 31
41	0 52	1 44	2 37	3 29	4 22	5 15	6 8	7 1	7 55	8 49
42	0 54	1 48	2 42	3 37	4 31	5 26	6 21	7 16	8 12	9 8
43	0 59	1 52	2 48	3 44	4 41	5 38	6 34	7 32	8 30	9 28
44	0 56	1 56	2 54	3 52	4 51	5 50	6 49	7 48	8 48	9 48
45	1 0	2 0	3 0	4 1	5 1	6 2	7 3	8 5	9 7	10 9
46	1 2	2 4	3 7	4 9	5 12	6 15	7 18	8 22	9 29	10 31
47	1 4	2 9	3 13	4 18	5 23	6 28	7 34	8 40	9 47	10 54
48	1 7	2 13	3 20	4 27	5 35	6 42	7 50	8 59	10 8	11 18
49	1 9	2 18	3 27	4 37	5 47	6 57	8 7	9 19	10 30	11 42
50	1 12	2 23	3 35	4 47	5 59	7 11	8 25	9 39	10 53	12 8
51	1 14	2 28	3 43	4 57	6 12	7 27	8 43	10 0	11 17	12 35
52	1 17	2 34	3 51	5 8	6 26	7 44	9 3	10 22	11 42	13 3
53	1 20	2 39	3 59	5 19	6 40	8 1	9 23	10 45	12 8	13 32
54	1 23	2 45	4 8	5 31	6 55	8 19	9 44	11 9	12 35	14 3
55	1 26	2 52	4 18	5 44	7 11	8 38	10 6	11 35	13 4	14 35
56	1 29	2 58	4 27	5 57	7 27	8 58	10 29	12 2	13 35	15 9
57	1 32	3 5	4 38	6 11	7 44	9 19	10 54	12 30	14 7	15 45
58	1 36	3 12	4 49	6 26	8 2	9 41	11 20	13 0	14 41	16 23
59	1 40	3 20	5 0	6 41	8 22	10 4	11 48	13 32	15 17	17 4
60	1 44	3 28	5 12	6 57	8 43	10 29	12 17	14 5	15 55	17 47
61	1 48	3 37	5 25	7 15	9 5	10 56	12 48	14 45	16 36	18 33
62	1 53	3 46	5 39	7 33	9 28	11 24	13 21	15 20	17 20	19 22
63	1 58	3 56	5 54	7 53	9 53	11 54	13 57	16 1	18 7	20 15
64	2 3	4 6	6 10	8 15	10 20	12 27	14 55	16 45	18 57	21 21

ELEVATION OF THE POLE.

Declination.	1		2		3		4		5		6		7		8		9		10	
°	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′
65	2	9	4	18	6	27	8	37	10	49	13	2	15	16	17	32	19	51	22	13
66	2	15	4	30	6	46	9	2	11	20	13	39	16	1	18	24	20	50	23	20
67	2	21	4	43	7	6	9	29	11	55	14	20	16	49	19	20	21	55	24	33
68	2	29	4	57	7	27	9	58	12	30	15	5	17	42	20	21	23	5	25	53
69	2	36	5	13	7	51	10	30	13	10	15	53	18	39	21	29	24	23	27	21
70	2	45	5	30	8	17	11	5	13	55	16	47	19	43	22	43	25	48	28	59
71	2	54	5	49	8	45	11	43	14	43	17	46	20	53	24	5	27	13	30	48
72	3	5	6	10	9	17	12	26	15	37	18	52	22	12	25	38	29	10	32	52
73	3	16	6	34	9	52	13	13	16	38	20	6	23	41	27	22	31	12	35	13
74	3	29	7	0	10	32	14	7	17	46	21	30	25	21	29	21	33	32	37	56
75	3	44	7	29	11	17	15	8	19	3	23	6	27	10	31	38	36	14	41	9
76	4	1	8	3	12	8	16	17	20	33	24	56	29	38	34	19	39	26	45	1
77	4	20	8	42	13	7	17	38	22	16	27	5	32	8	37	30	43	19	49	48
78	4	43	9	27	14	16	19	12	24	18	29	38	35	17	41	23	48	10	56	3
79	5	9	10	21	15	38	21	4	26	45	32	44	39	10	46	18	54	34	65	7
80	5	41	11	25	17	17	23	22	29	45	36	35	44	8	52	51	63	55	90	0
81	6	19	12	44	19	19	26	12	33	32	41	35	50	50	62	33	90	0		
82	7	8	14	23	21	54	29	50	38	30	48	24	60	33	90	0				
83	8	10	16	31	25	16	34	43	45	27	58	52	90	0						
84	9	34	19	21	29	55	41	42	56	21	90	0								
85	11	31	23	31	36	49	53	0	90	0										
86	14	27	30	58	48	23	90	0												
87	19	27	41	47	90	0														
88	36	51	90	0																
89	90	0																		
90																				

ELEVATION OF THE POLE.

Declination.	11	12	13	14	15	16	17	18	19	20
°	° '	° '	° '	° '	° '	° '	° '	° '	° '	° '
1	0 12	0 13	0 14	0 15	0 16	0 17	0 18	0 19	0 21	0 22
2	0 23	0 25	0 28	0 30	0 32	0 34	0 37	0 39	0 42	0 44
3	0 35	0 38	0 42	0 45	0 48	0 52	0 54	0 59	1 2	1 6
4	0 47	0 51	0 56	1 0	1 4	1 9	1 14	1 18	1 23	1 27
5	0 58	1 4	1 9	1 15	1 21	1 26	1 32	1 38	1 44	1 49
6	1 10	1 17	1 23	1 30	1 37	1 44	1 50	1 57	2 4	2 12
7	1 22	1 30	1 37	1 45	1 53	2 1	2 9	2 17	2 25	2 34
8	1 35	1 43	1 52	2 0	2 9	2 19	2 28	2 37	2 46	2 56
9	1 46	1 56	2 6	2 16	2 26	2 36	2 47	2 57	3 8	3 18
10	1 58	2 9	2 20	2 31	2 42	2 54	3 5	3 17	3 20	3 41
11	2 10	2 22	2 34	2 47	2 59	3 12	3 24	3 37	3 50	4 3
12	2 22	2 35	2 49	3 2	3 16	3 30	3 44	3 58	4 12	4 26
13	2 34	2 49	3 3	3 18	3 33	3 48	4 3	4 18	4 34	4 49
14	2 47	3 2	3 18	3 34	3 50	4 6	4 22	4 39	4 56	5 12
15	2 59	3 16	3 33	3 50	4 7	4 24	4 42	5 0	5 18	5 36
16	3 12	3 30	3 48	4 6	4 24	4 43	5 2	5 21	5 40	5 59
17	3 24	3 44	4 3	4 22	4 42	5 2	5 22	5 42	6 2	6 23
18	3 37	3 58	4 18	4 39	5 0	5 21	5 42	6 4	6 25	6 47
19	3 50	4 12	4 34	4 55	5 18	5 40	6 3	6 26	6 49	7 12
20	4 3	4 26	4 49	5 12	5 36	5 59	6 24	6 48	7 12	7 37
21	4 17	4 41	5 5	5 30	5 54	6 19	6 45	7 10	7 36	8 2
22	4 30	4 56	5 21	5 47	6 13	6 39	7 6	7 33	8 0	8 27
23	4 44	5 11	5 37	6 5	6 32	6 59	7 27	7 56	8 24	8 53
24	4 58	5 26	5 54	6 23	6 51	7 20	7 49	8 19	8 49	9 19
25	5 12	5 41	6 11	6 41	7 11	7 41	8 12	8 43	9 14	9 46
26	5 26	5 57	6 28	6 59	7 31	8 2	8 35	9 7	9 40	10 14
27	5 41	6 13	6 45	7 18	7 51	8 24	8 58	9 32	10 6	10 41
28	5 56	6 29	7 3	7 37	8 11	8 46	9 21	9 57	10 33	11 9
29	6 11	6 46	7 21	7 57	8 32	9 9	9 45	10 23	11 0	11 38
30	6 27	7 3	7 40	8 17	8 54	9 32	10 10	10 49	11 28	12 8
31	6 42	7 20	7 59	8 37	9 16	9 55	10 35	11 16	11 56	12 38
32	6 59	7 38	8 18	8 58	9 38	10 19	11 1	11 43	12 25	13 9

ELEVATION OF THE POLE.

Declination.	11		12		13		14		15		16		17		18		19		20	
°	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′
33	7	15	7	56	8	37	9	19	10	1	10	44	11	27	12	11	12	55	13	40
34	7	32	8	15	8	57	9	41	10	25	11	9	11	54	12	40	13	26	14	13
35	7	49	8	34	9	18	10	3	10	49	11	35	12	22	13	9	13	57	14	46
36	8	7	8	53	9	39	10	26	11	13	12	1	12	50	13	39	14	29	15	20
37	8	25	9	13	10	1	10	50	11	39	12	29	13	10	14	10	15	2	15	55
38	8	44	9	34	10	23	11	14	12	5	12	57	13	49	14	42	15	36	16	31
39	9	3	9	55	10	46	11	39	12	32	13	26	14	20	15	15	16	11	17	8
40	9	23	10	16	11	10	12	5	13	0	13	55	14	51	15	49	16	48	17	47
41	9	44	10	39	11	35	12	31	13	28	14	26	15	25	16	24	17	25	18	27
42	10	5	11	2	12	0	12	58	13	58	14	58	15	59	17	1	18	4	19	8
43	10	27	11	26	12	26	13	27	14	28	15	31	16	34	17	38	18	44	19	50
44	10	49	11	51	12	53	13	56	15	0	16	5	17	10	18	17	19	25	20	35
45	11	13	12	16	13	21	14	28	15	33	16	40	17	48	18	58	20	8	21	21
46	11	27	12	43	13	50	14	58	16	7	17	10	18	27	19	40	20	53	22	9
47	12	2	13	11	14	20	15	30	16	42	17	54	19	8	20	23	21	40	22	58
48	12	28	13	39	14	51	16	5	17	19	18	34	19	51	21	9	22	29	23	51
49	12	55	14	9	15	24	16	40	17	57	19	16	20	36	21	57	23	20	24	45
50	13	24	14	40	15	58	17	17	18	37	19	59	21	22	22	47	24	15	25	42
51	13	53	15	13	16	34	17	56	19	19	20	44	22	11	23	39	25	10	26	43
52	14	24	15	47	17	11	18	37	20	3	21	32	23	2	24	34	26	9	27	46
53	14	57	16	23	17	50	19	19	20	50	22	36	23	56	25	35	27	11	28	53
54	15	31	17	1	18	32	20	4	21	38	23	15	24	53	26	34	28	17	30	4
55	16	7	17	40	19	15	20	52	22	30	24	10	25	53	27	39	29	27	31	19
56	16	45	18	22	20	1	21	42	23	24	25	9	26	57	28	40	30	42	32	39
57	17	25	19	6	20	49	22	35	24	22	26	12	28	5	30	1	32	1	34	5
58	18	7	19	52	21	41	23	31	25	23	27	19	29	18	31	20	33	26	35	37
59	18	52	20	43	22	36	24	31	26	29	28	30	30	35	32	44	34	58	37	17
60	19	40	21	36	23	34	25	35	27	39	29	47	31	58	34	15	36	37	39	5
61	20	32	22	23	24	37	26	44	28	54	31	9	33	28	35	53	38	24	41	3
62	21	27	23	34	25	44	27	58	30	16	32	38	35	6	37	40	40	22	43	12
63	22	26	24	39	26	57	29	18	31	44	34	15	36	52	39	37	42	34	45	35
64	23	29	25	50	28	15	30	45	33	19	36	1	38	49	41	46	44	54	48	16

ELEVATION OF THE POLE.

Declination.	11		12		13		14		15		16		17		18		19		20	
°	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′
65	24	38	27	7	29	41	32	10	35	4	37	56	40	58	44	10	47	36	51	19
66	25	53	28	31	31	14	34	3	37	0	40	6	43	22	46	52	50	39	54	50
67	27	15	30	3	32	57	35	58	39	8	42	30	46	4	49	56	54	13	59	2
68	28	45	31	45	34	51	38	6	41	33	45	13	49	10	53	52	58	7	64	16
69	30	25	33	37	36	58	40	30	44	16	48	20	52	48	57	50	63	47	71	28
70	32	13	35	44	39	22	43	14	47	24	51	59	57	8	63	13	73	5	90	0
71	34	22	38	7	42	6	46	23	51	6	56	23	62	37	70	40	90	0		
72	36	45	40	51	45	17	50	7	55	33	61	57	70	12	90	0				
73	39	29	44	3	49	2	54	38	61	13	69	42	90	0						
74	42	41	47	50	53	37	60	17	69	8	90	0								
75	46	30	52	30	59	30	68	31	90	0										
76	51	14	58	29	67	49	90	0												
77	57	21	67	2	90	0														
78	66	8	90	0																
79	90	0																		
80																				
81																				
82																				
83																				
84																				
85																				
86																				
87																				
88																				
89																				
90																				

Elevation of the Pole.

Declination.	21		22		23		24		25		26		27		28		29		30	
°	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′
1	0	23	0	24	0	25	0	27	0	28	0	29	0	31	0	32	0	33	0	35
2	0	46	0	49	0	51	0	53	0	56	0	59	1	1	1	4	1	7	1	9
3	1	9	1	13	1	17	1	20	1	24	1	28	1	32	1	36	1	40	1	44
4	1	32	1	37	1	42	1	47	1	52	1	57	2	3	2	8	2	13	2	19
5	1	55	2	2	2	8	2	14	2	20	2	27	2	33	2	40	2	47	2	54
6	2	19	2	26	2	33	2	41	2	49	2	56	3	4	3	12	3	20	3	29
7	2	42	2	51	2	59	3	8	3	17	3	26	3	35	3	45	3	54	4	4
8	3	6	3	15	3	25	3	35	3	45	3	56	4	6	4	17	4	28	4	39
9	3	29	3	40	3	51	4	3	4	14	4	26	4	38	4	50	5	2	5	15
10	3	53	4	5	4	18	4	30	4	53	4	56	5	9	5	23	5	38	5	51
11	4	17	4	30	4	44	4	58	5	12	5	26	5	41	5	56	6	11	6	27
12	4	41	4	56	5	11	5	26	5	41	5	57	6	13	6	29	6	46	7	3
13	5	5	5	21	5	38	5	54	6	11	6	28	6	45	7	3	7	21	7	40
14	5	30	5	47	6	5	6	22	6	41	6	59	7	18	7	37	7	56	8	17
15	5	54	6	13	6	32	6	51	7	11	7	31	7	51	8	11	8	32	8	54
16	6	19	6	39	6	59	7	20	7	41	8	3	8	24	8	46	9	8	9	32
17	6	44	7	6	7	27	7	49	8	12	8	35	8	58	9	21	9	45	10	10
18	7	10	7	33	7	56	8	19	8	43	9	7	9	32	9	56	10	23	10	49
19	7	36	8	0	8	24	8	49	9	14	9	40	10	6	10	33	11	0	11	28
20	8	2	8	27	8	53	9	19	9	46	10	14	10	41	11	9	11	38	12	8
21	8	28	8	55	9	23	9	50	10	19	10	47	11	17	11	46	12	17	12	48
22	8	55	9	24	9	53	10	22	10	52	11	22	11	53	12	24	12	56	13	29
23	9	22	9	53	10	23	10	54	11	25	11	57	12	29	13	3	13	37	14	11
24	9	50	10	22	10	54	11	26	11	59	12	33	13	7	13	42	14	17	14	54
25	10	19	10	52	11	25	11	59	12	34	13	9	13	45	14	21	14	59	15	37
26	10	47	11	22	11	57	12	33	13	9	13	46	14	24	15	2	15	41	16	21
27	11	17	11	53	12	29	13	7	13	45	14	23	15	3	15	43	16	24	17	6
28	11	47	12	24	13	3	13	42	14	21	15	2	15	43	16	25	17	8	17	53
29	12	17	12	56	13	37	14	18	14	59	15	41	16	24	17	3	17	54	18	40
30	12	48	13	29	14	11	14	54	15	37	16	21	17	6	17	53	18	40	19	28
31	13	20	14	3	14	47	15	31	16	16	17	2	17	50	18	38	19	27	20	18
32	13	53	14	37	15	23	16	9	16	56	17	45	18	34	19	24	20	16	21	9
33	14	26	15	13	16	0	16	48	17	38	18	27	19	20	20	12	21	26	22	1
34	15	0	15	49	16	38	17	29	18	20	19	12	20	6	21	1	21	57	22	55

ELEVATION OF THE POLE.

Declination.	21		22		23		24		25		26		27		28		29		30	
°	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′
35	15	36	16	26	17	17	18	10	19	3	19	58	20	54	21	51	22	50	23	51
36	16	12	17	4	17	58	18	53	19	48	20	45	21	44	22	44	23	45	24	48
37	16	49	17	44	18	39	19	36	20	34	21	34	22	25	23	37	24	41	25	47
38	17	27	18	24	19	22	20	21	21	22	22	24	23	28	24	33	25	40	26	49
39	18	6	19	6	20	6	21	8	22	11	23	16	24	22	25	30	26	40	27	52
40	18	47	19	49	20	52	21	56	23	2	24	9	25	19	26	30	27	43	28	59
41	19	30	20	34	21	39	22	46	23	55	25	5	26	17	27	32	28	48	30	7
42	20	13	21	20	22	28	23	38	24	50	26	3	27	18	28	36	29	56	31	19
43	20	59	22	8	23	19	24	32	25	46	27	3	28	22	29	43	31	7	32	34
44	21	45	22	58	24	12	25	20	26	45	28	6	29	28	30	54	32	22	33	53
45	22	34	23	50	25	7	26	26	27	48	29	11	30	38	32	7	33	40	35	16
46	23	26	24	44	26	5	27	27	28	52	30	20	31	51	33	24	35	2	36	44
47	24	18	25	41	27	5	28	31	30	0	31	32	33	7	34	46	36	28	38	15
48	25	14	26	40	28	8	29	38	31	11	32	47	34	28	36	11	38	0	39	53
49	26	12	27	42	29	14	30	49	32	26	34	8	35	53	37	53	39	39	41	37
50	27	13	28	47	30	23	32	3	33	46	35	33	37	23	39	19	41	21	43	29
51	28	17	29	56	31	37	33	21	35	9	37	2	38	59	41	1	44	11	45	29
52	29	36	31	8	32	54	34	44	36	39	38	38	40	42	42	53	45	12	47	39
53	30	37	32	25	34	17	36	13	38	14	40	20	42	33	44	53	47	21	50	1
54	31	54	33	47	35	45	37	48	39	46	42	10	44	32	47	2	49	43	52	37
55	33	14	35	14	37	19	39	29	41	45	44	0	46	41	49	35	52	20	55	33
56	34	41	36	48	38	59	41	18	43	44	46	19	49	4	52	2	55	16	58	52
57	36	14	38	28	40	49	43	17	45	53	48	40	51	41	54	58	58	36	62	45
58	37	54	40	17	42	47	45	27	47	16	51	19	54	37	58	19	62	30	67	31
59	39	40	42	16	44	57	47	49	50	54	54	16	58	0	62	14	67	18	73	35
60	41	50	44	25	47	19	50	27	53	52	57	39	61	57	67	24	73	46	90	0
61	43	50	46	48	49	59	53	26	57	36	61	38	66	49	73	35	90	0		
62	46	12	49	27	52	58	56	52	61	17	66	32	73	23	90	0				
63	48	53	52	28	56	25	60	54	66	14	73	11	90	0						
64	51	55	55	55	60	29	65	54	72	57	90	0								
65	55	23	60	3	65	21	72	42	90	0										
66	59	34	65	9	72	26	90	0												
67	64	44	72	8	90	0														
68	71	49	90	0																
69	90	0																		

Elevation of the Pole.

Declination.	31		32		33		34		35		36		37		38		39		40	
°	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
1	0	36	0	37	0	39	0	40	0	42	0	44	0	45	0	47	0	49	0	50
2	1	12	1	15	1	18	1	21	1	24	1	27	1	21	1	34	1	37	1	41
3	1	48	1	53	1	57	2	2	2	6	2	11	2	16	2	21	2	26	2	31
4	2	24	2	30	2	36	2	42	2	48	2	55	3	1	3	8	3	15	3	22
5	3	1	3	8	3	15	3	23	3	31	3	39	3	47	3	55	4	4	4	13
6	3	37	3	46	3	55	4	3	4	13	4	23	4	33	4	43	4	53	5	4
7	4	14	4	24	4	34	4	45	4	56	5	7	5	19	5	30	5	42	5	55
8	4	51	5	2	5	14	5	26	5	39	5	52	6	5	6	18	6	32	6	46
9	5	28	5	41	5	54	6	8	6	22	6	37	6	51	7	6	7	22	7	38
10	6	5	6	20	6	35	6	50	7	9	7	22	7	38	7	55	8	13	8	30
11	6	42	6	59	7	15	7	32	7	49	8	7	8	25	8	44	9	3	9	23
12	7	20	7	38	7	56	8	15	8	34	8	53	9	13	9	34	9	55	10	16
13	7	58	8	18	8	37	8	58	9	18	9	39	10	1	10	24	10	46	11	10
14	8	37	8	58	9	19	9	41	10	3	10	26	10	50	11	14	11	39	12	4
15	9	16	9	38	10	1	10	25	10	49	11	14	11	39	12	5	12	32	13	0
16	9	55	10	19	10	44	11	9	11	35	12	2	12	29	12	57	13	26	13	55
17	10	35	11	1	11	27	11	54	12	22	12	54	13	19	13	49	14	20	14	52
18	11	16	11	43	12	11	12	40	13	9	13	39	14	10	14	42	15	15	15	49
19	11	56	12	26	12	55	13	26	13	57	14	29	15	2	15	36	16	11	16	48
20	12	38	13	9	13	40	14	13	14	46	15	20	15	55	16	31	17	8	17	47
21	13	20	13	53	14	26	15	0	15	36	16	12	16	49	17	27	18	7	18	47
22	14	3	14	37	15	13	15	49	16	27	17	5	17	44	18	24	19	6	19	49
23	14	47	15	23	16	0	16	38	17	17	17	58	18	39	19	22	20	6	20	52
24	15	51	16	9	16	48	17	29	18	10	18	52	19	36	20	21	21	8	21	56
25	16	16	16	56	17	38	18	20	19	3	19	48	20	34	21	21	22	11	23	1
26	17	2	17	45	18	28	19	12	19	58	20	45	21	34	22	24	23	16	24	10
27	17	50	18	34	19	19	20	6	20	54	21	44	22	35	23	28	24	22	25	19
28	18	38	19	24	20	12	21	1	21	51	22	44	23	37	24	33	25	30	26	30
29	19	27	20	16	21	6	21	57	22	50	23	45	24	41	25	40	26	40	27	43
30	20	18	21	9	22	1	22	55	23	51	24	48	25	47	26	49	27	52	28	59
31	21	10	22	3	22	58	23	55	24	53	25	53	26	55	28	0	29	7	30	17
32	22	3	22	59	23	56	24	56	25	57	27	0	28	5	29	13	30	24	31	37

Elevation of the Pole.

Declination.	31		32		33		34		35		36		37		38		39		40	
°	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'	°	'
33	22	58	23	56	24	57	25	59	27	3	28	9	29	18	30	29	31	44	33	1
34	23	55	24	56	25	59	27	4	28	11	29	21	30	32	31	48	33	6	34	28
35	24	53	25	57	27	3	28	11	29	22	30	35	31	50	33	10	34	33	35	59
36	25	53	27	0	28	9	29	21	30	35	31	52	33	12	34	36	36	2	37	33
37	26	55	28	5	29	18	30	32	31	50	33	12	34	32	36	4	37	36	39	13
38	28	0	29	13	30	29	31	48	33	10	34	36	36	4	37	37	39	15	40	58
39	29	7	30	23	31	44	33	6	34	33	36	2	37	36	39	15	40	59	42	49
40	30	17	31	37	33	1	34	28	35	59	37	33	39	13	40	58	42	49	44	45
41	31	29	32	54	34	22	35	53	37	30	39	10	40	55	42	47	44	45	46	50
42	32	45	34	15	35	47	37	23	39	5	40	52	42	44	44	42	46	49	49	4
43	34	5	35	38	37	16	38	59	40	46	42	39	44	39	46	46	49	2	51	20
44	35	28	37	7	38	50	40	39	42	33	44	33	46	42	48	59	51	27	54	8
45	36	56	38	40	40	30	42	25	44	26	46	36	48	54	51	22	54	4	57	3
46	38	29	40	17	42	16	44	18	46	29	48	48	51	17	54	0	56	57	60	20
47	40	7	42	4	44	8	46	20	48	40	51	11	53	55	56	48	60	16	64	8
48	41	52	43	57	46	9	48	31	51	3	53	48	56	49	60	11	64	4	68	44
49	43	44	45	47	48	20	50	53	53	40	56	42	60	6	64	0	68	41	74	52
50	45	43	48	8	50	43	53	30	56	34	59	59	63	46	68	36	74	49	90	0
51	47	54	50	30	53	19	56	24	59	51	63	48	68	31	74	45	90	0		
52	50	16	53	7	56	13	59	42	63	40	68	25	74	42	90	0				
53	52	53	56	1	59	31	63	31	68	19	74	37	90	0						
54	55	48	59	19	63	21	68	11	74	32	90	0								
55	59	6	63	10	68	2	74	26	90	0										
56	62	59	67	53	74	19	90	0												
57	67	42	74	12	90	0														
58	74	4	90	0																
59	90	0																		
60																				
61																				
62																				
63																				
64																				

ELEVATION OF THE POLE.

Declination.	41		42		43		44		45		46		47		48		49		50	
°	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′
1	0	52	0	54	0	56	0	58	1	0	1	2	1	4	1	7	1	9	1	12
2	1	44	1	48	1	52	1	56	2	0	2	4	2	9	2	13	2	18	2	23
3	2	37	2	42	2	48	2	54	3	0	3	7	3	13	3	20	3	27	3	35
4	3	29	3	37	3	44	3	52	4	1	4	9	4	18	4	27	4	37	4	47
5	4	22	4	31	4	41	4	51	5	1	5	12	5	23	5	35	5	47	5	59
6	5	15	5	26	5	37	5	50	6	2	6	15	6	28	6	42	6	57	7	12
7	6	8	6	21	6	34	6	49	7	5	7	18	7	34	7	50	8	7	8	25
8	7	1	7	16	7	32	7	48	8	5	8	22	8	40	8	59	9	18	9	38
9	7	55	8	12	8	30	8	48	9	7	9	26	9	47	10	8	10	30	10	53
10	8	49	9	8	9	28	9	48	10	9	10	31	10	54	11	18	11	42	12	8
11	9	44	10	5	10	27	10	49	11	12	11	57	12	1	12	28	12	55	13	24
12	10	39	11	2	11	26	11	51	12	16	12	43	13	11	13	39	14	9	14	40
13	11	35	12	0	12	26	12	53	13	21	13	50	14	20	14	51	15	24	15	58
14	12	31	12	58	13	27	13	56	14	26	14	58	15	30	16	5	16	40	17	17
15	13	28	13	58	14	28	14	0	15	32	16	7	16	42	17	19	17	57	18	37
16	14	26	14	58	15	31	16	5	16	40	17	16	17	54	18	34	19	16	19	59
17	15	25	15	59	16	34	17	10	17	48	18	27	19	8	19	51	20	36	21	22
18	16	24	17	1	17	38	18	17	18	58	19	40	20	23	21	9	21	57	22	47
19	17	25	18	4	18	44	19	25	20	9	20	53	21	40	22	29	23	18	24	14
20	18	27	19	8	19	51	20	35	21	21	22	8	22	58	23	51	24	45	25	42
21	19	30	20	13	20	59	21	46	22	34	23	25	24	10	25	14	26	12	27	14
22	20	34	21	20	22	8	22	58	23	50	24	44	25	40	26	40	27	42	28	47
23	21	39	22	28	23	19	24	12	25	7	26	5	27	5	28	8	29	14	30	23
24	22	46	23	38	24	32	25	28	26	26	27	27	28	31	29	38	30	48	32	3
25	23	55	24	50	25	47	26	46	27	48	28	52	30	0	31	12	32	26	33	46
26	25	5	26	3	27	3	28	6	29	11	30	20	31	32	32	48	34	8	35	32
27	26	17	27	18	28	22	29	29	30	38	31	51	33	7	34	28	35	53	37	23
28	27	31	28	36	29	44	30	54	32	7	33	25	34	46	36	12	37	43	39	19
29	28	48	29	56	31	8	32	22	33	40	35	2	36	28	38	0	39	37	41	21
30	30	7	31	19	32	35	35	53	35	16	36	45	38	15	39	53	41	37	43	29
31	31	29	32	45	34	5	35	28	36	56	38	29	40	7	41	52	43	44	45	44
32	32	54	34	14	35	38	37	7	38	40	40	19	42	4	43	57	44	57	48	8

ELEVATION OF THE POLE.

Declination.	41		42		43		44		45		46		47		48		49		50	
°	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′
33	34	22	35	47	37	16	38	50	40	30	42	16	44	8	46	9	48	20	50	43
34	35	53	37	23	38	59	40	39	42	25	44	18	46	20	48	31	50	53	53	40
35	37	30	39	5	40	46	42	33	44	26	46	29	48	40	51	3	53	40	56	34
36	39	10	40	52	42	39	44	33	46	36	48	48	51	11	53	48	56	42	59	59
37	40	55	42	44	44	39	46	42	48	54	51	17	53	55	56	49	60	6	63	46
38	42	47	44	42	46	46	48	59	51	22	54	0	56	48	60	11	64	0	68	36
39	44	45	46	49	49	2	51	27	54	3	56	57	60	16	65	4	68	41	74	49
40	46	50	49	4	51	29	54	8	57	4	60	20	64	8	68	44	74	52	90	0
41	49	5	51	31	54	9	57	5	60	23	64	10	68	47	74	54	90	0		
42	51	31	54	10	57	6	60	24	64	13	68	49	74	55	90	0				
43	54	9	57	6	60	24	64	14	68	49	74	56	90	0						
44	57	5	60	24	64	14	68	50	74	57	90	0								
45	60	23	64	13	68	49	74	57	90	0										
46	64	10	68	39	74	56	90	0												
47	68	47	74	55	90	0														
48	74	54	90	0																
49	90	0																		
50																				
51																				
52																				
53																				
54																				
55																				
56																				
57																				
58																				
59																				
60																				
61																				
62																				
63																				
64																				

ELEVATION OF THE POLE.

Declination.	51		52		53		54		55		56		57		58		59		60	
°	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′
1	1	14	1	17	1	20	1	23	1	26	1	29	1	32	1	36	1	40	1	44
2	2	28	2	34	2	39	2	45	2	52	2	58	3	5	3	12	3	20	3	28
3	3	43	3	51	3	59	4	8	4	18	4	27	4	48	4	40	5	0	5	13
4	4	57	5	8	5	19	5	31	5	44	5	57	6	11	6	25	6	41	6	57
5	6	12	6	26	6	40	6	55	7	11	7	27	7	44	8	3	8	22	8	42
6	7	27	7	44	8	1	8	19	8	38	8	58	9	19	9	4	10	4	10	28
7	8	43	9	2	9	23	9	44	10	6	10	29	10	54	11	20	11	47	12	17
8	10	0	10	22	10	45	11	9	11	35	12	2	12	30	13	0	13	31	14	5
9	11	17	11	42	12	8	12	35	13	4	13	35	14	7	14	41	15	17	15	55
10	12	35	13	2	13	32	14	3	14	35	15	9	15	45	16	23	17	4	17	47
11	13	53	14	24	14	57	15	31	16	7	16	45	17	25	18	8	18	53	19	41
12	15	13	15	49	16	23	17	0	17	40	18	22	19	6	19	53	20	43	21	36
13	16	34	17	11	17	50	18	32	19	15	20	1	20	50	21	41	22	36	23	34
14	17	56	18	37	19	19	20	4	20	52	21	42	22	35	23	3	24	31	25	35
15	19	19	20	4	20	50	21	38	22	30	23	24	24	22	25	23	26	29	27	39
16	20	44	21	32	22	22	23	15	24	10	25	9	26	12	27	19	29	30	29	47
17	22	11	23	2	23	56	24	53	25	53	26	57	28	5	29	18	30	35	31	59
18	23	39	24	34	25	35	26	34	27	39	28	48	30	1	31	10	32	44	34	19
19	25	10	26	9	27	11	28	17	29	27	30	41	32	1	33	26	34	58	36	37
20	26	43	27	46	28	53	30	4	31	19	32	36	34	5	35	37	37	17	39	5
21	28	18	29	26	30	37	31	54	33	15	34	41	36	14	37	54	39	42	41	40
22	29	56	31	8	32	25	33	47	35	14	36	48	38	28	40	17	42	15	44	25
23	31	43	32	54	34	17	35	45	37	19	39	0	40	49	42	47	44	57	47	20
24	33	32	34	44	36	13	37	48	39	29	41	18	43	17	45	26	47	49	50	27
25	35	21	36	39	38	14	39	59	41	45	43	48	45	54	48	16	50	54	53	52
26	37	10	38	38	40	20	42	10	44	9	46	18	48	41	51	19	54	16	57	39
27	39	0	40	42	42	33	44	32	46	41	49	4	51	41	54	38	58	1	61	57
28	41	2	42	53	44	53	47	2	49	24	52	1	54	58	59	19	62	14	67	4
29	43	12	45	12	47	21	49	44	52	20	55	16	58	36	63	31	67	18	73	48
30	45	29	47	39	50	1	52	37	55	32	58	52	62	45	67	31	73	55	90	0
31	47	54	50	16	52	53	55	48	59	6	62	58	67	42	74	4	90	0		
32	50	30	53	7	56	1	59	19	63	10	67	53	71	12	90	0				
33	52	19	56	13	59	32	63	21	68	2	74	19	90	0						
34	56	24	59	42	63	31	68	11	74	26	90	0								
35	59	51	63	40	68	19	74	22	90	0										
36	63	48	69	5	74	37	90	0												
37	68	31	74	42	90	0														
38	74	45	90	0																
39	90	0																		

Latitude, 44°.

Pa.	0	♋ 10	20	0	♌ 10	20	0	♍ 10	20	30
3	5 9	5 6	4 59	4 50	4 41	4 30	4 22	4 16	4 13	4 10
4	6 55	6 52	6 42	6 30	6 16	6 3	5 59	5 43	5 38	5 34
5	8 42	8 39	8 26	8 11	7 52	7 34	7 19	7 9	7 2	6 58
6	10 32	10 26	10 11	9 52	9 30	9 8	8 49	8 36	8 27	8 21
7	12 24	12 17	11 59	11 36	11 9	10 43	10 20	10 4	9 52	9 45
8	14 19	14 12	13 51	13 22	12 50	12 19	11 52	11 32	11 18	11 9
9	16 17	16 9	15 44	15 11	14 32	13 55	13 24	13 0	12 44	12 33
10	18 18	18 7	17 38	16 58	16 14	15 33	14 56	14 29	14 10	13 58
11	20 23	20 9	19 35	18 53	17 59	17 12	16 30	15 59	15 37	15 23
12	22 31	22 17	21 38	20 45	19 47	18 53	18 6	17 30	17 4	16 48
13	24 45	24 28	23 45	22 46	21 37	20 35	19 42	19 1	18 32	17 13
14	27 5	26 44	25 14	24 44	23 30	22 19	21 19	20 33	20 1	19 39
15	29 32	29 10	28 10	26 49	25 24	24 6	22 59	22 6	21 30	21 4
16	32 7	31 45	30 32	28 59	27 23	25 54	24 38	23 41	22 59	22 32
17	34 46	34 27	33 2	31 16	29 25	27 45	26 20	25 19	24 30	23 59
18	37 32	37 16	35 40	33 38	31 30	29 38	28 0	26 55	26 3	25 26
	30	♊ 20	10	0	♉ 20	10	0	♈ 20	10	0
	0	♎ 10	20	0	♏ 10	20	0	♐ 10	20	30
3	4 10	4 12	4 13	4 19	4 26	4 35	4 41	4 48	4 53	4 55
4	5 34	5 35	5 37	5 44	5 53	6 5	6 13	6 22	6 28	6 30
5	6 58	6 58	7 1	7 9	7 20	7 34	7 44	7 56	8 3	8 5
6	8 21	8 21	8 25	8 34	8 47	9 3	9 15	9 28	9 37	9 40
7	9 45	9 44	9 48	9 56	10 13	10 31	10 45	11 0	11 10	11 13
8	11 9	11 7	11 13	11 21	11 39	11 59	12 14	12 31	12 42	12 45
9	12 33	12 31	12 36	12 46	13 4	13 25	13 42	14 1	14 13	14 16
10	13 58	13 55	13 59	14 12	14 29	14 52	15 11	15 30	15 44	15 48
11	15 23	15 19	15 23	15 35	15 51	16 17	16 49	16 59	17 14	17 18
12	16 48	16 43	16 47	16 59	16 19	18 42	18 6	18 28	18 43	18 47
13	18 13	18 7	18 10	18 22	18 45	19 9	19 32	19 56	20 12	20 17
14	19 39	19 31	19 33	19 46	20 12	20 36	20 59	21 24	21 41	21 46
15	21 4	20 55	20 55	21 8	21 34	22 1	22 25	22 51	23 9	23 13
16	22 32	22 19	22 20	22 33	22 55	23 26	23 51	24 17	24 36	24 42
17	23 59	23 44	23 44	23 57	24 19	24 51	25 17	25 44	26 3	26 7
18	25 26	25 9	25 8	25 20	25 43	26 15	26 42	27 10	27 30	27 37
	30	♓ 20	10	0	♒ 20	10	0	♑ 20	10	0

Latitude, 47°.

Pa.	0	♋ 10	20	0	♌ 10	20	0	♍ 10	20	30
3	5 33	5 31	5 23	5 10	5 0	4 49	4 38	4 33	4 26	4 24
4	7 30	7 26	7 16	6 58	6 43	6 27	6 13	6 5	5 56	5 59
5	9 29	9 24	9 10	8 47	8 27	8 6	7 48	7 35	7 25	7 21
6	11 29	11 24	11 6	10 40	10 10	9 46	9 23	9 7	8 55	8 49
7	13 34	13 28	13 5	12 34	12 0	11 28	11 0	10 39	10 25	10 18
8	15 44	15 35	15 7	14 30	13 50	13 11	12 38	12 10	11 56	11 46
9	17 58	17 46	17 13	16 49	15 41	14 56	14 17	13 45	13 27	13 16
10	20 19	20 3	19 20	18 31	17 34	16 40	15 57	15 19	14 59	14 45
11	22 40	22 26	21 37	20 36	19 30	18 30	17 38	16 54	16 21	16 15
12	25 10	24 54	24 0	22 46	21 30	20 20	19 20	18 29	18 4	17 45
13	27 53	27 30	26 28	25 1	23 33	22 13	21 4	20 7	19 36	19 16
14	30 45	30 18	29 3	27 20	25 39	24 8	22 51	21 50	21 10	20 47
15	33 50	33 19	31 46	29 47	27 50	26 6	24 39	23 36	22 36	22 18
16	37 20	36 37	34 43	32 20	30 6	28 6	26 26	25 18	24 17	23 50
17	41 17	40 20	37 58	35 9	32 28	30 10	28 20	27 0	25 57	25 23
18	46 6	44 46	41 37	38 5	34 57	32 21	30 31	29 3	27 39	26 50
	30	♊ 20	10	0	♉ 20	10	0	♈ 20	10	0
	0	♎ 10	20	0	♏ 10	20	0	♐ 10	20	30
3	4 24	4 25	4 28	4 34	4 41	4 50	4 49	5 9	5 16	5 18
4	5 53	5 54	5 57	6 4	6 13	6 26	6 38	6 49	6 57	6 59
5	7 21	7 21	7 25	7 31	7 45	8 0	8 15	8 29	8 39	8 41
6	8 49	8 49	8 50	9 4	9 17	9 34	9 51	10 8	10 20	10 23
7	10 18	10 17	10 20	10 34	10 48	11 7	11 27	11 45	11 58	12 1
8	11 46	11 44	11 50	12 3	12 19	12 50	13 2	13 20	13 36	13 39
9	13 16	13 13	13 19	13 30	13 40	14 10	14 36	14 58	15 13	15 17
10	14 45	14 41	14 46	15 0	15 19	15 43	16 9	16 33	16 50	16 54
11	16 15	16 9	16 14	16 28	16 9	17 14	17 40	18 7	18 25	18 29
12	17 45	17 37	17 42	17 57	18 18	18 45	19 14	19 41	20 0	20 5
13	19 16	19 7	19 11	19 25	19 47	20 15	20 45	21 14	21 33	21 40
14	20 47	20 36	20 38	20 53	21 15	21 45	22 16	22 47	23 7	23 13
15	22 18	22 4	22 5	22 21	22 44	23 15	23 47	24 19	24 30	24 37
16	23 50	23 34	23 34	23 49	24 10	24 44	25 18	25 50	26 10	26 19
17	25 23	25 4	25 0	25 17	25 41	26 13	26 48	27 21	27 24	27 50
18	26 57	26 36	26 30	26 45	27 40	27 40	28 18	28 50	29 16	29 24
	30	♓ 20	10	0	♒ 20	10	0	♑ 20	10	0

Latitude, 50°.

Pa.	0	♋ 10	20	0	♌ 10	20	0	♍ 10	20	30
3	6 9	6 5	5 54	5 40	5 25	5 13	4 59	4 50	4 40	4 40
4	8 18	8 15	8 1	7 38	7 18	6 58	6 39	6 25	6 18	6 14
5	10 33	10 27	10 9	9 39	9 10	8 46	8 21	8 0	7 43	7 48
6	12 51	12 43	12 18	11 40	11 7	10 31	10 4	9 40	9 28	9 20
7	15 15	15 5	14 33	13 49	13 5	12 20	11 49	11 20	11 3	10 56
8	17 46	17 33	16 54	16 0	15 6	14 15	13 35	13 0	12 39	12 30
9	20 44	20 8	19 20	18 15	17 11	16 10	15 20	14 43	14 16	14 5
10	23 10	22 49	21 50	20 34	19 17	18 6	17 10	16 25	15 54	15 40
11	26 6	25 41	24 30	22 59	21 27	20 6	19 1	18 8	17 33	17 16
12	29 20	28 50	27 24	25 33	23 40	22 10	20 55	19 51	19 14	18 52
13	32 18	32 18	30 28	28 16	26 5	24 17	22 49	21 37	20 56	20 29
14	37 5	36 9	33 51	31 9	28 34	26 26	24 46	23 28	22 38	22 7
15	42 5	40 45	37 38	34 13	31 10	28 43	26 46	25 18	24 20	23 45
16	49 17	46 40	43 50	37 37	33 55	31 3	28 50	27 10	26 8	25 24
17			47 58	41 28	36 50	33 30	30 57	29 3	27 53	27 3
18				46 0	40 5	36 4	33 7	31 1	29 36	28 44
	30	♊ 20	10	0	♉ 20	10	0	♈ 20	10	0
	0	♎ 10	20	0	♏ 10	20	0	♐ 10	20	30
3	4 40	4 41	4 44	4 51	5 4	5 15	5 25	5 36	5 44	5 46
4	6 14	6 15	6 18	6 27	6 41	6 54	7 10	7 24	7 34	7 37
5	7 48	7 48	7 50	8 3	8 19	8 35	8 54	9 11	9 23	9 27
6	9 20	9 20	9 26	9 38	9 57	10 38	10 38	10 58	11 10	11 17
7	10 56	10 58	11 0	11 13	11 34	11 55	12 20	12 40	12 58	13 4
8	12 30	12 28	12 30	12 48	13 10	13 34	14 1	14 26	14 44	14 51
9	14 5	14 0	14 6	14 20	14 46	15 10	15 41	16 8	16 27	16 35
10	15 40	15 36	15 40	15 56	16 21	16 49	17 21	17 50	18 10	18 18
11	17 16	17 10	17 14	17 30	17 56	18 26	18 59	19 30	19 50	20 1
12	18 52	18 44	18 47	19 3	19 31	20 0	20 38	21 10	21 33	21 40
13	20 29	20 18	20 16	20 37	21 5	21 38	22 15	22 49	23 13	23 23
14	22 7	21 53	21 54	22 10	22 39	23 13	23 50	24 27	24 53	25 3
15	23 45	23 28	23 28	23 44	24 13	24 48	25 28	25 5	26 31	26 41
16	25 24	25 4	25 0	25 17	25 47	26 23	27 4	27 40	28 9	28 20
17	27 3	26 40	26 36	26 51	27 21	27 57	28 40	29 19	29 46	29 57
18	28 44	28 17	28 10	28 24	28 54	29 31	30 15	30 28	31 23	31 34
	30	♓ 20	10	0	♒ 20	10	0	♑ 20	10	0

Latitude, 51°.

Pa.	0	♋ 10	20	0	♌ 10	20	0	♍ 10	20	30
3	6 20	6 19	6 7	5 51	5 35	5 19	5 6	4 56	4 48	4 46
4	8 40	8 33	8 16	7 53	7 30	7 8	6 49	6 35	6 26	6 20
5	11 0	10 51	10 29	9 58	9 28	8 59	8 34	8 15	8 4	7 58
6	13 26	13 14	12 46	12 6	11 28	10 51	10 20	9 57	9 40	9 34
7	15 59	15 44	15 8	14 19	13 31	12 45	12 8	11 40	11 21	11 10
8	18 39	18 21	17 36	16 37	15 37	14 41	13 57	13 21	12 59	12 47
9	21 18	21 6	20 11	18 59	17 46	16 40	15 47	15 7	14 39	14 24
10	24 28	24 1	22 53	21 25	19 59	18 41	17 39	16 50	16 19	16 1
11	27 44	27 0	25 46	23 59	22 17	20 45	19 33	18 38	18 1	17 39
12	31 23	30 39	28 54	26 43	24 41	22 54	21 30	20 27	19 44	19 18
13	35 30	34 35	32 20	29 38	27 11	25 6	23 29	22 16	21 27	20 57
14	40 36	39 13	36 8	32 45	29 48	27 20	25 31	24 8	23 11	22 37
15	47 58	45 23	40 38	36 10	32 30	29 44	27 36	26 0	24 57	24 17
16			46 28	40 4	36 35	32 10	29 45	27 57	26 44	25 59
17			50 0	43 44	38 51	34 48	31 58	29 55	28 35	27 41
18				50 55	42 28	37 34	34 16	31 57	30 23	29 25
	30	♊ 20	10	0	♉ 20	10	0	♈ 20	10	0

	0	♎ 10	20	0	♏ 10	20	0	♐ 10	20	30
3	4 46	4 47	4 51	4 58	5 8	5 20	5 33	5 47	5 56	5 58
4	6 20	6 20	6 26	6 36	6 48	7 5	7 20	7 39	7 50	7 53
5	7 58	7 58	8 3	8 14	8 29	8 48	9 9	9 29	9 40	9 45
6	9 34	9 33	9 39	9 51	10 10	10 35	10 56	11 18	11 13	11 37
7	11 10	11 8	11 14	11 28	11 48	12 10	12 41	13 5	13 20	13 26
8	12 47	12 44	12 50	13 5	13 26	13 53	14 25	14 51	15 10	15 15
9	14 24	14 20	14 26	14 41	15 4	15 33	16 7	16 36	16 56	17 1
10	16 1	15 55	16 1	16 17	16 40	17 13	17 49	18 20	18 40	18 48
11	17 39	17 31	17 36	17 53	18 20	18 50	19 30	20 3	20 26	20 30
12	19 18	19 8	19 10	19 28	19 57	20 31	21 10	21 45	22 10	22 17
13	20 57	20 44	20 47	21 4	21 33	22 9	22 50	23 26	23 50	23 59
14	22 37	22 21	22 23	23 39	23 9	23 46	24 29	25 7	25 34	25 40
15	24 17	23 59	23 59	24 15	24 45	25 23	26 7	26 47	27 15	27 23
16	25 59	25 36	25 34	25 50	26 20	26 59	27 45	28 26	28 55	29 4
17	27 41	27 15	27 11	27 26	27 56	28 36	29 23	30 5	30 35	30 44
18	29 25	28 54	28 47	29 1	29 31	30 20	31 0	31 43	32 14	32 24
	30	♓ 20	10	0	♒ 20	10	0	♑ 20	10	0

LATITUDE, 52°.

Pa.	0	♋ 10	20	0	♌ 10	20	0	♍ 10	20	30
3	6 40	6 36	6 22	6 5	5 45	6 27	5 16	5 2	4 56	4 55
4	9 1	8 56	8 36	8 10	7 44	7 19	7 0	6 44	6 35	6 39
5	11 29	11 21	10 54	10 20	9 45	9 13	8 48	8 27	8 15	8 8
6	14 4	13 52	13 18	12 35	11 50	11 9	10 36	10 11	9 55	9 46
7	16 46	16 31	15 48	14 53	13 57	13 7	12 27	11 56	11 36	11 25
8	19 37	19 19	18 25	17 17	16 9	15 8	14 20	13 42	13 17	13 5
9	22 41	22 18	21 10	19 47	18 25	17 10	16 14	15 29	14 49	14 45
10	26 0	25 28	24 6	22 23	20 44	19 17	18 9	17 17	16 43	16 25
11	29 41	28 59	27 16	25 8	23 9	21 27	20 7	19 7	18 28	18 5
12	33 54	32 59	30 43	28 5	25 40	23 40	22 9	21 0	20 13	19 45
13	39 2	37 40	34 35	31 16	28 21	26 1	24 13	22 54	21 59	21 26
14	46 30	43 54	39 0	34 45	31 11	28 24	26 19	24 48	23 46	23 8
15		46 50	45 4	38 40	34 13	30 55	28 30	26 45	25 35	24 50
16				43 23	37 31	33 30	30 45	28 45	27 25	26 36
17				49 40	41 11	36 21	33 5	30 47	29 18	28 21
18					45 26	39 20	35 30	32 55	31 20	30 8
	30	♊ 20	10	0	♉ 20	10	0	♈ 20	10	0

	0	♎ 10	20	0	♏ 10	20	0	♐ 10	20	0
3	4 53	4 54	4 58	5 5	5 17	5 29	5 45	5 58	6 7	6 10
4	6 30	6 31	6 36	6 45	7 0	7 16	7 36	7 53	8 5	8 9
5	8 8	8 8	8 13	8 24	8 43	9 2	9 26	9 46	10 0	10 6
6	9 49	9 46	9 50	10 5	10 25	10 47	11 25	11 38	11 55	12 0
7	11 25	11 24	11 30	11 44	12 7	12 31	13 0	13 28	13 46	13 55
8	13 4	13 0	13 8	13 23	13 48	14 15	14 49	15 18	15 37	15 46
9	14 43	14 39	14 45	15 0	15 28	15 57	16 34	17 5	17 26	17 35
10	16 23	16 17	16 23	16 49	17 7	17 39	18 18	18 50	19 15	19 25
11	18 5	17 55	18 0	18 18	18 46	19 20	20 0	20 36	21 2	21 10
12	19 44	19 34	19 37	19 55	20 25	20 1	21 44	22 19	22 48	22 59
13	21 25	21 31	21 15	21 33	22 4	22 41	23 26	24 5	24 30	24 45
14	23 28	22 50	22 53	23 40	23 40	24 21	25 7	25 48	26 16	26 28
15	24 50	24 30	24 31	24 49	25 20	26 0	26 48	27 30	27 50	28 10
16	26 36	26 10	26 9	26 25	26 57	27 39	28 28	29 13	28 40	29 55
17	28 21	27 54	27 49	28 0	28 35	29 17	30 8	30 53	31 25	31 37
18	30 0	29 35	29 27	29 41	30 13	30 55	31 48	32 30	33 5	33 20
	30	♓ 20	10	0	♒ 20	10	0	♑ 20	10	0

LATITUDE, 53°.

Pa.	0	♋ 10	20	0	♌ 10	20	0	♍ 10	20	30
3	7 6	6 53	6 38	6 17	5 55	5 36	5 20	5 9	5 3	4 59
4	9 35	9 29	8 58	8 29	7 58	7 31	7 11	6 54	6 46	6 39
5	12 11	11 50	11 23	10 45	10 4	9 28	9 0	8 40	8 28	8 20
6	14 55	14 34	13 56	13 6	12 13	11 29	10 54	10 26	10 10	10 0
7	17 49	17 24	16 35	15 30	14 26	13 20	12 48	12 14	11 52	11 41
8	20 56	20 24	19 24	18 4	16 44	15 38	14 45	14 4	13 38	13 20
9	24 18	23 39	22 23	20 43	19 6	17 46	16 43	15 54	15 22	15 4
10	28 0	27 13	25 38	23 30	21 23	19 57	18 40	17 45	17 9	16 46
11	32 17	31 15	29 10	26 27	24 7	22 13	20 45	19 35	18 56	18 29
12	37 30	36 1	32 39	29 40	26 49	24 34	22 51	21 34	20 44	20 13
13	45 3	42 18	37 36	33 13	29 41	27 0	25 0	23 34	22 32	21 57
14			43 37	37 14	32 46	29 33	27 10	25 34	24 24	23 43
15			57 31	42 0	36 7	32 15	29 29	27 34	26 17	25 28
16				48 23	39 51	35 4	31 50	29 38	28 11	27 16
17					44 10	38 6	34 21	31 46	30 7	29 4
18					49 37	41 25	36 56	33 58	32 6	30 54
	30	♊ 20	10	0	♉ 20	10	0	♈ 20	10	0
	0	♎ 10	20	0	♏ 10	20	0	♐ 10	20	30
3	4 59	4 59	5 5	5 13	5 26	5 41	5 55	6 10	6 21	6 26
4	6 39	6 39	6 46	6 55	7 10	7 31	7 50	8 8	8 20	8 28
5	8 20	8 19	8 26	8 37	8 57	9 20	9 43	10 4	10 21	10 28
6	10 0	9 59	10 7	10 20	10 40	11 8	11 30	12 0	12 19	12 27
7	11 41	11 39	11 47	12 0	12 26	12 55	13 25	13 54	14 15	14 24
8	13 20	13 18	13 26	13 43	14 9	14 41	15 15	15 46	16 9	16 19
9	15 4	14 58	15 6	15 24	15 51	16 26	17 0	17 36	18 0	18 11
10	16 46	16 38	16 46	17 4	17 34	18 10	18 49	19 25	19 50	20 3
11	18 29	18 19	18 26	18 44	19 15	19 54	20 35	21 14	21 40	21 54
12	20 13	20 0	20 6	20 24	20 56	21 37	22 20	23 1	23 31	23 43
13	21 57	21 41	21 45	22 4	22 37	23 19	24 4	24 47	25 18	25 31
14	23 40	23 23	23 26	23 44	24 17	25 1	25 48	26 34	27 5	27 18
15	25 28	25 5	25 6	25 24	25 57	26 40	27 31	28 17	28 54	29 5
16	27 16	26 48	26 48	27 4	27 37	28 23	29 13	30 1	30 36	30 50
17	29 4	28 30	28 28	28 44	29 17	30 4	30 55	31 44	32 20	32 35
18	30 54	30 16	30 9	30 20	30 57	31 44	32 37	33 27	34 3	34 18
	30	♓ 20	10	0	♒ 20	10	0	♑ 20	10	0

LATITUDE, 54°.

Pa.	0	♋ 10	20	0	♌ 10	20	0	♍ 10	20	0
3	7 17	7 13	6 55	6 30	6 10	5 49	5 31	5 18	5 10	5 7
4	9 56	9 48	9 23	8 50	8 17	7 48	7 22	7 5	6 54	6 49
5	12 40	12 31	11 57	11 13	10 28	9 50	9 17	8 54	8 39	8 30
6	15 39	15 24	14 38	13 40	12 44	11 55	11 14	10 44	10 25	10 15
7	18 48	18 26	17 28	16 14	15 2	14 5	13 10	12 35	12 11	11 58
8	22 10	21 44	20 29	18 56	17 27	16 15	15 10	14 27	13 58	13 40
9	25 59	25 20	23 44	21 46	19 57	18 27	17 15	16 21	15 46	15 26
10	30 18	29 25	27 16	24 47	22 34	20 44	19 19	18 16	17 34	17 11
11	35 35	34 16	31 16	28 0	25 17	22 7	21 27	20 14	19 24	18 57
12	47 20	40 39	35 58	31 38	28 10	25 35	23 37	22 14	21 17	20 45
13			42 0	35 41	31 20	28 10	25 50	24 15	23 10	22 30
14			56 9	40 31	34 44	30 54	28 11	26 19	25 4	24 18
15				46 59	38 31	33 46	30 36	28 26	26 49	26 8
16					42 54	36 50	33 6	30 36	28 57	27 58
17					48 27	40 15	35 44	32 51	30 58	29 50
18					57 34	44 0	38 30	35 9	33 0	31 45
	30	♊ 20	10	0	♉ 20	10	0	♈ 20	10	0

	0	♎ 10	20	0	♏ 10	20	0	♐ 10	20	30
3	5 7	5 7	5 10	5 21	5 34	5 50	6 8	6 20	6 36	6 40
4	6 49	6 48	6 54	7 5	7 20	7 44	8 6	8 26	8 40	8 49
5	8 30	8 31	8 38	8 51	9 19	9 36	10 4	10 26	10 45	10 54
6	10 15	10 14	10 21	10 36	10 58	11 27	11 58	12 25	12 46	12 56
7	11 58	11 55	12 4	12 20	12 44	13 17	13 50	14 20	14 45	14 55
8	13 40	13 37	13 45	14 4	14 30	15 6	15 44	16 18	16 44	16 54
9	15 26	15 19	15 26	15 47	16 15	16 54	17 34	18 11	18 39	18 50
10	17 11	17 0	17 9	17 29	17 59	18 40	19 24	20 4	20 34	20 45
11	18 57	18 46	18 50	19 10	19 44	20 26	21 10	21 54	22 25	22 38
12	20 44	20 29	20 34	20 54	21 27	22 10	23 0	23 45	24 17	24 31
13	22 30	22 14	22 16	22 36	23 10	23 57	24 47	25 34	26 7	26 21
14	24 18	23 58	23 59	24 18	24 54	25 41	26 34	27 20	27 47	28 10
15	26 8	25 44	25 41	26 0	26 36	27 25	28 18	29 9	29 45	30 0
16	27 58	27 28	27 25	27 40	28 18	29 8	30 3	30 55	31 30	31 48
17	29 50	29 15	29 8	29 25	30 0	30 51	32 47	32 41	33 19	33 35
18	31 44	31 0	30 50	31 7	31 40	32 34	33 31	34 26	35 5	35 20
	30	♓ 20	10	0	♒ 20	10	0	♑ 20	10	0

LATITUDE, 55°.

Pa.	0	♋ 10	20	0	♌ 10	20	0	♍ 10	20	30
3	7 40	7 34	7 16	6 48	6 20	5 59	5 40	5 26	5 18	5 14
4	10 31	10 18	9 51	9 12	8 35	8 0	7 36	7 16	7 5	6 59
5	13 20	13 10	12 35	11 42	10 50	10 8	9 30	9 8	8 54	8 44
6	16 41	16 19	15 28	14 20	13 14	12 18	11 34	11 1	10 41	10 29
7	20 9	19 40	18 30	17 4	15 14	14 31	13 37	12 56	12 29	12 16
8	23 59	23 20	21 49	19 56	18 12	16 46	15 40	14 52	14 20	14 0
9	28 20	27 26	25 24	23 0	20 50	19 6	17 46	16 49	16 11	15 58
10	33 44	32 21	29 27	26 18	23 38	21 31	19 56	18 48	18 5	17 37
11	41 30	38 50	34 14	29 57	26 34	24 0	22 10	20 49	19 57	19 26
12			10 24	34 5	29 46	26 40	24 27	22 52	21 52	21 15
13				38 56	33 10	29 26	26 48	25 0	23 47	23 5
14				43 30	37 3	32 21	29 15	27 9	25 46	24 57
15					41 31	35 29	31 48	29 21	27 44	26 49
16					47 6	38 54	34 28	31 38	29 49	28 44
17					56 25	42 44	37 18	33 59	31 52	30 40
18						47 10	40 18	36 26	33 55	32 36
	30	♊ 20	10	0	♉ 20	10	0	♈ 20	10	0

	0	♎ 10	20	0	♏ 10	20	0	♐ 10	20	30
3	4 14	5 4	5 21	5 30	5 44	6 2	6 20	6 38	6 52	6 58
4	6 49	6 58	7 6	7 8	7 56	7 59	8 24	8 46	9 3	9 10
5	8 44	8 42	8 52	9 6	9 6	9 54	10 24	10 51	11 11	11 19
6	10 30	10 28	10 37	10 53	11 18	11 40	12 22	12 55	13 16	13 25
7	12 16	12 14	12 22	12 40	12 57	13 41	14 20	14 55	15 19	15 29
8	14 4	13 58	14 7	14 26	14 56	15 34	16 14	16 52	17 20	17 31
9	15 50	15 44	15 51	16 11	16 34	17 25	18 7	18 49	19 19	19 31
10	17 14	17 28	17 36	17 56	18 30	19 14	20 0	20 44	21 17	21 30
11	19 26	19 15	19 22	19 41	20 7	21 2	21 51	22 38	23 13	23 26
12	21 15	21 0	21 6	21 26	22 5	22 50	23 42	24 31	25 8	25 22
13	23 5	22 46	22 50	23 11	23 39	24 37	25 32	26 23	27 1	27 15
14	24 57	24 34	24 36	24 56	25 34	26 24	27 21	28 14	28 53	29 8
15	26 49	26 22	26 21	26 41	27 9	28 11	29 9	30 4	30 44	30 59
16	28 44	28 11	28 8	28 25	29 4	29 57	30 57	31 53	32 35	32 51
17	30 40	30 1	29 55	30 10	30 49	31 44	32 44	33 41	34 24	34 40
18	32 35	31 51	31 41	31 55	32 33	33 28	34 30	35 29	36 13	36 36
	30	♓ 20	10	0	♒ 20	10	0	♑ 20	10	0

LATITUDE, 56°.

Pa.	0	♋ 10	20	0	♌ 10	20	0	♍ 10	20	30
3	8 9	8 1	7 32	7 8	6 37	6 12	5 50	5 37	5 26	5 20
4	11 10	10 56	10 24	9 40	8 56	8 20	7 50	7 36	7 18	7 10
5	14 24	14 5	13 10	12 10	11 19	10 31	9 52	9 25	9 7	8 58
6	17 55	17 30	16 26	15 6	13 48	12 46	11 57	11 22	10 58	10 46
7	21 49	21 14	19 42	18 2	16 24	15 4	14 4	13 20	12 50	12 35
8	26 17	25 25	23 26	21 9	19 5	17 27	16 14	15 20	14 44	14 25
9	31 41	30 24	27 35	24 31	22 54	19 55	18 42	17 21	16 39	16 15
10	39 34	36 58	32 25	28 11	24 54	22 28	20 39	19 24	18 35	18 6
11				32 22	28 5	25 8	22 58	21 30	20 31	19 57
12				37 21	31 32	26 56	25 24	23 35	22 30	21 50
13				44 0	35 31	30 54	27 9	25 51	24 31	23 44
14					40 4	34 5	30 27	28 5	26 34	25 38
15					45 45	37 32	33 9	30 21	28 38	27 34
16					51 5	41 37	36 2	32 38	30 45	29 30
17						45 58	39 7	35 6	32 55	31 31
18						51 40	42 25	37 54	35 9	33 34
	30	♊ 20	10	0	♉ 20	10	0	♈ 20	10	0

	0	♎ 10	20	0	♏ 10	20	0	♐ 10	20	30
3	5 22	5 24	5 28	5 40	5 54	6 14	6 35	6 55	7 11	7 18
4	7 10	7 10	7 16	7 30	7 49	8 15	8 41	9 7	9 27	9 35
5	8 58	8 58	9 5	9 21	9 44	10 14	10 45	11 16	11 40	11 49
6	10 46	10 45	10 54	11 12	11 27	12 11	12 47	13 22	13 50	14 0
7	12 35	12 32	12 40	13 1	13 29	14 8	14 47	15 28	15 58	16 9
8	14 25	14 20	14 28	14 50	15 21	16 4	16 47	17 29	18 5	18 15
9	16. 15	16 8	16 15	16 38	17 11	17 56	18 42	19 29	20 6	20 19
10	18 6	17 56	18 4	18 26	19 1	19 49	20 39	21 28	22 7	22 21
11	19 57	19 44	19 50	20 14	20 50	21 41	22 34	23 27	24 7	24 21
12	21 50	21 34	21 38	22 1	22 39	23 32	24 28	25 24	26 5	26 20
13	23 43	23 24	23 25	23 49	24 28	25 22	26 20	27 18	28 1	28 17
14	25 38	25 14	25 14	25 36	26 16	27 12	28 12	29 10	29 57	30 14
15	27 34	27 4	27 1	27 24	28 4	29 1	30 2	31 5	31 50	32 7
16	29 32	28 56	28 50	29 11	29 51	30 49	31 52	32 57	33 45	34 2
17	31 31	30 49	30 39	30 59	31 39	32 39	33 42	34 50	35 36	35 52
18	33 34	32 44	32 29	32 46	33 26	34 26	35 38	36 28	37 28	37 46
	30	♓ 20	10	0	♒ 20	10	0	♑ 20	10	0

For the Latitude of London 51° 32′, the Ecliptical Obtiquity being 23° 28′.

NORTH LATITUDE.

♋	0		1		2		3		4		5		6		7		8		9		
	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	
0	33	7	34	56	36	56	38	48	40	52	43	2	45	20	47	46	50	23	53	13	30
1	33	6	34	56	36	49	38	47	40	51	43	1	45	19	47	45	50	22	53	12	29
2	33	5	34	55	36	48	38	46	40	50	43	0	45	17	47	43	50	20	53	10	28
3	33	3	34	53	36	46	38	44	40	48	42	58	45	15	47	41	50	17	53	7	27
4	33	0	34	49	36	42	38	40	40	44	42	53	45	10	47	36	50	12	53	1	26
5	32	57	34	45	36	38	38	36	40	39	42	49	45	5	47	31	50	7	52	55	25
6	32	53	34	40	36	33	38	30	40	33	42	42	44	59	47	23	49	59	52	46	24
7	32	48	34	34	36	27	38	23	40	27	42	36	44	52	47	16	49	51	52	37	23
8	32	41	34	29	36	21	38	18	40	20	42	29	44	45	47	9	49	42	52	29	22
9	32	35	34	22	36	13	38	10	40	12	42	20	44	35	46	58	49	32	52	17	21
10	32	27	34	14	36	6	38	2	40	4	42	12	44	26	46	49	49	21	52	5	20
11	32	19	34	7	35	58	37	54	39	53	42	0	44	15	46	37	49	6	51	52	19
12	32	11	33	58	35	49	37	44	39	45	41	52	44	5	46	24	48	55	51	37	18
13	32	0	33	47	35	38	37	33	39	33	41	39	43	59	46	10	48	37	51	18	17
14	31	50	33	36	35	24	37	19	39	19	41	22	43	34	45	50	48	17	50	57	16
15	31	38	33	23	35	11	37	5	39	4	41	7	43	18	45	34	47	59	50	36	15
16	31	25	33	11	34	58	36	52	38	50	40	52	43	2	45	17	47	41	50	17	14
17	31	13	32	58	34	45	36	38	38	34	40	35	42	42	44	56	47	19	49	53	13
18	31	0	32	44	34	31	36	23	38	18	40	18	42	26	44	39	46	59	49	32	12
19	30	46	32	30	34	16	36	8	38	2	40	2	42	7	44	19	46	39	49	8	11
20	30	31	32	14	34	0	35	49	37	42	39	41	41	45	43	56	46	15	48	42	10
21	30	15	31	58	33	43	35	32	37	25	39	23	41	26	43	36	45	53	48	18	9
22	30	4	31	43	33	27	35	9	37	7	39	4	41	7	43	18	45	34	47	55	8
23	29	44	31	25	33	9	34	56	36	48	38	44	40	46	42	55	45	10	47	31	7
24	29	27	31	6	32	49	34	36	36	27	38	22	40	23	42	29	44	43	47	4	6
25	29	8	30	48	32	30	34	16	36	6	38	0	40	0	42	5	44	17	46	37	5
26	28	50	30	27	32	9	33	54	35	43	37	37	39	35	41	39	43	50	46	8	4
27	28	32	30	7	31	48	33	32	35	21	37	13	39	10	41	13	43	22	45	39	3
28	28	13	29	47	31	27	33	11	34	58	36	50	38	44	40	46	42	53	45	8	2
29	27	53	29	27	31	6	32	49	34	36	36	27	38	20	40	20	42	27	44	40	1
30	27	32	29	7	30	44	32	26	34	10	36	0	37	52	39	51	41	54	44	3	0
	0		1		2		3		4		5		6		7		8		9		♊

For the Latitude of London 51° 32′, *the Ecliptical Obliquity being* 23° 28′

NORTH LATITUDE.

♌	0		1		2		3		4		5		6		7		8		9		
	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	
0	27	32	29	7	30	44	32	26	34	10	36	0	37	52	39	51	41	54	44	3	30
1	27	11	28	42	30	23	32	4	33	49	35	38	37	29	39	25	41	26	43	33	29
2	26	50	28	24	30	2	31	41	33	23	35	11	37	2	38	56	40	56	43	2	28
3	26	30	28	2	29	38	31	17	32	58	34	45	36	34	38	28	40	27	42	31	27
4	26	7	27	39	29	14	30	53	32	39	34	20	36	8	38	0	39	57	42	0	26
5	25	44	27	16	28	48	30	29	32	9	33	53	35	39	37	31	39	27	41	28	25
6	25	22	26	54	28	27	30	4	31	43	33	25	35	11	37	2	38	56	40	56	24
7	24	59	26	29	28	3	29	38	31	17	32	58	34	43	36	33	38	24	40	24	23
8	24	34	26	5	27	37	29	12	30	49	32	30	34	14	36	2	37	54	39	51	22
9	24	11	25	39	27	12	28	45	30	21	32	1	33	44	35	30	37	21	39	16	21
10	23	47	25	15	26	46	28	17	29	53	31	32	33	14	34	56	36	46	38	40	20
11	23	21	24	48	26	19	27	51	29	25	31	3	32	42	34	25	36	14	38	4	19
12	22	57	24	22	25	52	27	24	28	57	30	34	32	11	33	54	35	40	37	31	18
13	22	32	23	56	25	25	26	55	28	29	30	5	31	41	33	23	35	6	36	56	17
14	22	7	23	30	24	59	26	26	28	0	29	35	31	11	32	51	34	34	36	21	16
15	21	40	23	5	24	32	25	59	27	31	29	5	30	41	32	19	34	1	35	47	15
16	21	14	22	39	24	4	25	31	27	2	28	35	30	11	31	48	33	29	35	13	14
17	20	48	22	11	23	37	25	3	26	33	28	4	29	42	31	17	32	57	34	39	13
18	20	21	21	43	23	8	24	34	26	3	27	34	29	13	30	44	32	23	34	3	12
19	19	56	21	15	22	38	24	5	25	33	27	3	28	35	30	10	31	48	33	28	11
20	19	28	20	48	22	9	23	35	25	2	26	33	28	3	29	37	31	14	32	51	10
21	19	1	20	20	21	42	23	6	24	31	26	3	27	32	29	4	30	39	32	18	9
22	18	33	19	53	21	13	22	38	24	2	25	30	27	0	28	32	30	4	31	43	8
23	18	6	19	25	20	45	22	8	23	32	24	59	26	27	27	58	29	30	31	5	7
24	17	38	18	56	20	16	21	38	23	2	24	27	25	55	27	24	28	56	30	29	6
25	17	10	18	27	19	47	21	9	22	32	23	57	25	24	26	52	28	22	29	55	5
26	16	43	17	59	19	18	20	39	22	2	23	26	24	52	26	19	27	48	29	20	4
27	16	15	17	31	18	50	20	9	21	31	22	35	24	20	25	47	27	14	28	45	3
28	15	46	17	2	18	21	19	40	21	1	22	24	23	49	25	15	26	42	28	13	2
29	15	17	16	33	17	51	19	10	20	30	21	53	23	17	24	42	26	10	27	38	1
30	14	49	16	4	17	21	18	40	20	0	21	21	22	44	24	8	25	35	27	3	0
	0		1		2		3		4		5		6		7		8		9		♉

For the Latitude of London 51° 32′, *the Ecliptical Obliquity being* 23° 28′.

NORTH LATITUDE.

♍	0	1	2	3	4	5	6	7	8	9	
0	14° 49′	16° 4′	17° 21′	18° 40′	20° 0′	21° 21′	22° 44′	24° 8′	25° 35′	27° 3′	30
1	14 20	15 36	16 53	18 12	19 30	20 50	22 13	23 37	25 2	26 30	29
2	13 51	15 6	16 23	17 39	19 0	20 19	21 42	23 4	24 29	25 57	28
3	13 22	14 38	15 54	17 10	18 30	19 48	21 10	22 32	23 56	25 23	27
4	12 53	14 8	15 24	16 40	17 59	19 17	20 39	22 1	23 24	24 50	26
5	12 24	13 41	14 54	16 10	17 30	18 48	20 8	21 29	22 52	24 15	25
6	11 55	13 12	14 24	15 40	16 58	18 15	19 35	20 56	22 15	23 29	24
7	11 26	12 40	13 55	15 10	16 26	17 42	19 1	20 24	21 40	23 4	23
8	10 57	12 10	13 25	14 39	15 55	17 10	18 28	19 48	21 5	22 29	22
9	10 27	11 40	12 55	14 9	15 23	16 38	17 55	19 13	20 31	21 54	21
10	9 58	11 10	12 24	13 38	14 52	16 7	17 23	18 40	19 58	21 19	20
11	9 28	10 40	11 53	13 5	14 21	15 34	16 50	18 7	19 25	20 44	19
12	9 0	10 10	11 23	12 36	13 50	15 2	16 17	17 35	18 53	20 11	18
13	8 29	9 40	10 53	12 4	13 19	14 31	15 46	17 2	18 20	19 37	17
14	7 59	9 10	10 23	11 34	12 48	14 0	15 15	16 30	17 46	19 4	16
15	7 30	8 40	9 53	11 5	12 17	13 30	14 44	16 0	17 15	18 33	15
16	7 1	8 10	9 23	10 35	11 47	13 0	14 13	15 28	16 44	18 1	14
17	6 30	7 41	8 52	10 5	11 15	12 28	13 41	14 56	16 12	17 29	13
18	6 0	7 10	8 22	9 34	10 45	11 58	13 10	14 23	15 39	16 55	12
19	5 30	6 40	7 52	9 4	10 14	11 26	12 39	13 51	15 7	16 22	11
20	5 0	6 10	7 22	8 33	9 44	10 54	12 8	13 19	14 35	15 50	10
21	4 30	5 40	6 52	8 3	9 13	10 24	11 37	12 49	14 3	15 19	9
22	4 1	5 10	6 22	7 32	8 43	9 54	11 6	12 18	13 31	14 46	8
23	3 31	4 40	5 51	7 2	8 13	9 24	10 35	11 47	13 0	14 14	7
24	3 1	4 10	5 21	6 31	7 41	8 53	10 4	11 16	12 29	13 41	6
25	2 31	3 41	4 50	6 0	7 10	8 22	9 32	10 44	11 57	13 8	5
26	2 1	3 10	4 20	5 30	6 40	7 50	9 1	10 13	11 25	12 37	4
27	1 30	2 40	3 50	5 0	6 10	7 19	8 30	9 43	10 53	12 5	3
28	1 1	2 10	3 20	4 29	5 39	6 50	8 0	9 2	10 21	11 34	2
29	0 31	1 40	2 49	4 0	5 9	6 19	7 30	8 39	9 50	11 3	1
30	0 0	1 10	2 19	3 28	4 38	5 48	6 59	8 8	9 19	10 31	0
	0	1	2	3	4	5	6	7	8	9	♈

For the Latitude of London 51° 32′, the Ecliptical Obliquity being 23° 28′.

North Latitude,

	♎	0	1	2	3	4	5	6	7	8	9		
		° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′		
	0	0 0	1 10	2 19	3 28	4 38	5 48	6 59	8 8	9 19	10 31	30	
	1	0 31	0 39	1 50	2 58	4 7	5 17	6 27	7 37	8 48	10 0	29	
S.	2	1 1	0 9	1 19	2 28	3 37	4 46	5 58	7 6	8 17	9 29	28	
	3	1 30	0 20	0 49	1 58	3 7	4 16	5 27	6 36	7 47	8 59	27	
	4	2 1	0 50	0 19	1 28	2 37	3 47	4 57	6 6	7 7	8 28	26	
	5	2 31	1 20	0 12	0 58	2 7	3 17	4 27	5 36	6 46	7 57	25	
	6	3 1	1 50	0 42	0 28	1 37	2 47	3 56	5 6	6 16	7 26	24	
	7	3 31	2 20	1 12	0 2	1 7	2 17	3 26	4 36	5 45	6 55	23	
	8	4 1	2 50	1 42	0 32	0 37	1 47	2 56	4 6	5 16	6 25	22	
	9	4 30	3 20	2 11	1 2	0 7	1 17	2 26	3 36	4 46	5 56	21	
	10	5 0	3 50	2 41	1 32	0 22	0 47	1 57	3 7	4 15	5 26	20	
	11	5 30	4 20	3 11	2 1	0 52	0 17	1 27	2 36	3 46	4 57	19	
	12	6 0	4 50	3 41	2 31	1 22	0 12	0 58	2 7	3 18	4 28	18	
	13	6 30	5 20	4 10	3 0	1 51	0 40	0 29	1 38	2 50	3 59	17	
	14	7 1	5 50	4 40	3 29	2 19	1 8	0 0	1 9	2 20	3 30	16	
	15	7 30	6 20	5 9	3 58	2 48	1 37	0 29	0 40	1 51	3 0	15	
	16	7 59	6 49	5 39	4 27	3 16	2 6	0 58	0 11	1 22	2 30	14	
	17	8 29	7 18	6 8	4 56	3 45	2 35	1 26	0 17	0 53	2 2	13	
	18	9 0	7 47	6 37	5 25	4 14	3 4	1 54	0 46	0 24	1 35	12	
	19	9 28	8 16	7 5	5 54	4 43	3 33	2 22	1 15	0 4	1 7	11	
	20	9 58	8 45	7 34	6 22	5 11	4 2	2 50	1 44	0 33	0 39	10	N.
	21	10 29	9 14	8 2	6 51	5 40	4 30	3 23	2 12	1 2	0 11	9	
	22	10 57	9 44	8 30	7 20	6 9	4 58	3 50	2 40	1 31	0 16	8	
	23	11 26	10 13	8 59	7 49	6 38	5 26	4 17	3 8	1 59	0 45	7	S.
	24	11 25	10 41	9 28	8 18	7 7	5 54	4 45	3 36	2 26	1 13	6	
	25	12 24	11 10	9 58	8 47	7 35	6 22	5 12	4 3	2 53	1 41	5	
	26	12 53	11 39	10 28	9 16	8 3	6 50	5 39	4 30	3 20	2 8	4	
	27	13 23	12 10	10 57	9 44	8 31	7 18	6 6	4 57	3 46	2 35	3	
	28	13 51	12 38	11 25	10 12	8 58	7 45	6 33	5 23	4 12	3 2	2	
	29	14 21	13 7	11 52	10 38	9 25	8 12	7 0	5 49	4 38	3 28	1	
	30	14 49	13 30	12 19	11 4	9 52	8 39	7 27	6 15	5 4	3 54	0	
		0	1	2	3	4	5	6	7	8	9	♓	

For the Latitude of London 51° 32′, the Ecliptical Obliquity being 23° 28′.

NORTH LATITUDE.

♏	0		1		2		3		4		5		6		7		8		9		
	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	
0	14	49	13	34	12	19	11	4	9	52	8	39	7	27	6	15	5	4	3	54	30
1	15	17	14	2	12	46	11	30	10	19	9	5	7	54	6	42	5	30	4	20	29
2	15	46	14	30	13	14	11	57	10	45	9	31	8	20	7	7	5	55	4	44	28
3	16	15	14	58	13	41	12	25	11	11	9	57	8	46	7	32	6	21	5	9	27
4	16	43	15	26	14	8	12	52	11	37	10	23	9	11	7	57	6	46	5	33	26
5	17	10	15	52	14	35	13	19	12	3	10	50	9	36	8	22	7	10	5	57	25
6	17	38	16	18	15	1	13	45	12	29	11	16	10	0	8	47	7	34	6	21	24
7	18	6	16	45	15	27	14	12	12	56	11	40	10	25	9	11	7	59	6	45	23
8	18	33	17	13	15	54	14	37	13	22	12	5	10	50	9	36	8	23	7	9	22
9	19	1	17	41	16	22	15	2	13	48	12	31	11	15	10	1	8	47	7	33	21
10	19	28	18	8	16	48	15	28	14	14	12	56	11	40	10	25	9	10	7	57	20
11	19	56	18	33	17	14	15	53	14	38	13	21	12	4	10	48	9	34	8	21	19
12	20	21	18	58	17	39	16	18	15	1	13	45	12	28	11	11	9	58	8	45	18
13	20	48	19	24	18	5	16	44	15	26	14	10	12	52	11	35	10	22	9	8	17
14	21	14	19	50	18	30	17	10	15	50	14	33	13	16	11	59	10	45	9	30	16
15	21	40	20	16	18	54	17	34	16	15	14	56	13	39	12	23	11	8	9	53	15
16	22	7	20	43	19	20	17	58	16	38	15	18	14	2	12	47	11	30	10	15	14
17	22	32	21	7	19	44	18	22	17	0	15	41	14	25	13	8	11	52	10	37	13
18	22	57	21	31	20	8	18	46	17	23	16	3	14	47	13	28	12	14	10	58	12
19	23	21	21	55	20	31	19	9	17	46	16	26	15	9	13	48	12	35	11	18	11
20	23	47	22	19	20	55	19	33	18	10	16	48	15	30	14	8	12	55	11	38	10
21	24	11	22	42	21	18	19	56	18	32	17	9	15	51	14	29	13	14	11	57	9
22	24	34	23	6	21	40	20	19	18	54	17	30	16	11	14	50	13	34	12	17	8
23	24	59	23	30	22	2	20	40	19	16	17	52	16	32	15	11	13	54	12	37	7
24	25	22	23	53	22	26	21	1	19	37	18	14	16	52	15	31	14	14	12	56	6
25	25	44	24	15	22	49	21	19	19	57	18	34	17	12	15	51	14	34	13	15	5
26	26	7	24	38	23	8	21	40	20	17	18	53	17	31	16	11	14	52	13	33	4
27	26	30	24	59	23	29	22	0	20	35	19	11	17	49	16	29	15	10	13	50	3
28	26	50	25	18	23	49	22	19	20	53	19	30	18	6	16	46	15	28	14	7	2
29	27	11	25	38	24	8	22	39	21	12	19	48	18	24	17	3	15	43	14	23	1
30	27	32	25	58	24	27	22	59	21	31	20	6	18	41	17	19	15	57	14	38	0
	0		1		2		3		4		5		6		7		8		9		♒

For the Latitude of London 51° 32′, the Ecliptical Obliquity being 23° 28′.

North Latitude.

♐	0		1		2		3		4		5		6		7		8		9		
	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	
0	27	32	25	58	24	27	22	59	21	31	20	6	18	41	17	19	15	57	14	38	30
1	27	53	26	19	24	46	23	18	21	49	20	25	19	0	17	38	16	15	14	56	29
2	28	13	26	38	25	5	23	36	22	7	20	42	19	17	17	55	16	32	15	13	28
3	28	32	26	57	25	24	23	53	22	26	20	58	19	23	18	11	16	48	15	29	27
4	28	50	27	14	25	41	24	10	22	41	21	13	19	49	18	26	17	3	15	43	26
5	29	8	27	32	25	58	24	27	22	56	21	30	20	4	18	40	17	17	15	56	25
6	29	27	27	50	26	15	24	43	23	14	21	44	20	19	18	55	17	31	16	9	24
7	29	44	28	6	26	31	24	59	23	29	22	0	20	32	19	8	17	44	16	22	22
8	30	4	28	22	26	46	25	15	23	45	22	14	20	46	19	21	17	57	16	33	23
9	30	15	28	37	27	1	25	30	23	58	22	28	21	0	19	34	18	10	16	46	21
10	30	31	28	52	27	16	25	43	24	10	22	41	21	12	19	47	18	23	16	59	20
11	30	46	29	7	27	30	25	55	24	24	22	54	21	25	19	59	18	34	17	12	19
12	31	0	29	2	27	43	26	7	24	36	23	6	21	36	20	11	18	45	17	21	18
13	31	13	29	33	27	55	26	18	24	48	23	16	21	46	20	21	18	55	17	31	17
14	31	25	29	45	28	6	26	29	24	58	23	26	21	56	20	30	19	4	17	40	16
15	31	30	29	55	28	16	26	39	25	7	23	35	22	5	20	39	19	13	17	48	15
16	31	50	30	6	28	27	26	49	25	16	23	45	22	15	20	48	19	22	17	57	14
17	32	0	30	17	28	38	26	58	25	25	23	54	22	24	20	57	19	30	18	5	13
18	32	11	30	27	28	47	27	8	25	34	24	2	22	32	21	4	19	37	18	12	12
19	32	19	30	36	28	55	27	17	25	42	24	9	22	39	21	11	19	44	18	19	11
20	32	27	30	43	29	2	27	24	25	49	24	16	22	46	21	17	19	50	18	25	10
21	32	35	30	49	29	7	27	30	25	54	24	22	22	52	21	23	19	56	18	31	9
22	32	41	30	55	29	13	27	36	26	1	24	28	22	58	21	28	20	2	18	36	8
23	32	48	31	1	29	19	27	42	26	6	24	33	23	3	21	33	20	7	18	41	7
24	32	53	31	6	29	25	27	47	26	11	24	37	23	7	21	37	20	11	18	45	6
25	32	57	31	11	29	30	27	51	26	15	24	41	23	11	21	41	20	14	18	48	5
26	33	0	31	15	29	33	27	54	26	18	24	44	23	14	21	44	20	17	18	51	4
27	33	3	31	18	29	36	27	57	26	21	24	47	23	16	21	47	20	20	18	54	3
28	33	5	31	20	29	38	27	59	26	23	24	49	23	18	21	49	20	22	18	56	2
29	33	6	31	21	29	39	28	0	26	24	24	50	23	19	21	49	20	22	18	57	1
30	33	7	31	22	29	40	28	1	26	25	24	51	23	20	21	50	20	23	18	57	0
	0		1		2		3		4		5		6		7		8		9		♑

For the Latitude of London 51° 32′, *the Ecliptical Obliquity being* 23° 28′.

South Latitude.

♋	0	1	2	3	4	5	6	7	8	9	
0	33° 7′	31° 22′	29° 40′	28° 1′	26° 25′	24° 51′	23° 20′	21° 50′	20° 23′	18° 57′	30
1	33 6	31 21	29 39	28 0	26 24	24 50	23 19	21 49	20 22	18 57	29
2	33 5	31 20	29 38	27 59	26 23	24 49	23 18	21 49	20 22	18 56	28
3	33 3	31 18	29 36	27 57	26 21	24 47	23 16	21 47	20 20	18 54	27
4	33 0	31 15	29 33	27 54	26 18	24 44	23 14	21 44	20 17	18 51	26
5	32 57	31 11	29 30	27 51	26 15	24 41	23 11	21 41	20 14	18 48	25
6	32 53	31 6	29 25	27 47	26 11	24 37	23 7	21 37	20 11	18 45	24
7	32 48	31 1	29 19	27 42	26 6	24 33	23 3	21 33	20 7	18 41	23
8	32 41	30 55	29 13	27 36	26 1	24 28	22 58	21 28	20 2	18 36	22
9	32 35	30 49	29 7	27 30	25 54	24 22	22 52	21 23	19 56	18 31	21
10	32 27	30 43	29 2	27 24	25 49	24 16	22 46	21 17	19 50	18 25	20
11	32 19	30 36	28 55	27 17	25 42	24 9	22 39	21 11	19 44	18 19	19
12	32 11	30 27	28 47	27 8	25 34	24 2	22 32	21 4	19 37	18 12	18
13	32 0	30 17	28 38	26 58	25 25	23 54	22 24	20 57	19 30	18 5	17
14	31 50	30 6	28 27	26 49	25 16	23 45	22 15	20 48	19 22	17 57	16
15	31 30	29 55	28 16	26 39	25 7	23 35	22 5	20 39	19 13	17 48	15
16	31 25	29 45	28 6	26 29	24 58	23 26	21 56	20 30	19 4	17 40	14
17	31 13	29 33	27 55	26 18	24 48	23 16	21 46	20 21	18 55	17 31	13
18	31 0	29 2	27 43	26 7	24 36	23 6	21 36	20 11	18 45	17 21	12
19	30 46	29 7	27 30	25 55	24 24	22 54	21 25	19 59	18 34	17 12	11
20	30 31	28 52	27 16	25 43	24 11	22 41	21 12	19 47	18 23	16 59	10
21	30 15	28 37	27 1	25 30	23 58	22 28	21 0	19 34	18 10	16 46	9
22	30 4	28 22	26 46	25 15	23 45	22 14	20 46	19 21	17 57	16 33	8
23	29 44	28 6	26 31	24 59	23 29	22 0	20 32	19 8	17 44	16 22	7
24	29 27	27 50	26 15	24 43	23 14	21 44	20 19	18 55	17 31	16 9	6
25	29 8	27 32	25 58	24 27	22 56	21 30	20 4	18 40	17 17	15 56	5
26	28 50	27 14	25 41	24 10	22 41	21 13	19 49	18 26	17 3	15 43	4
27	28 32	26 57	25 24	23 53	22 26	20 58	19 23	18 11	16 48	15 29	3
28	28 13	26 38	25 5	23 36	22 7	20 42	19 17	17 55	16 32	15 13	2
29	27 53	26 19	24 46	23 18	21 49	20 25	19 0	17 38	16 15	14 56	1
30	27 32	25 58	24 27	22 59	21 31	20 6	18 41	17 19	15 57	14 38	0
	0	1	2	3	4	5	6	7	8	9	♊

For the Latitude of London 51° 32′, the Ecliptical Obliquity being 23° 28′.

South Latitude.

♌	0	1	2	3	4	5	6	7	8	9	
°	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	° ′	
0	27 32	25 58	24 27	22 59	21 31	20 6	18 41	17 19	15 57	14 38	30
1	27 11	25 38	24 8	22 39	21 12	19 48	18 24	17 3	15 43	14 23	29
2	26 50	25 18	23 49	22 19	20 53	19 30	18 6	16 46	15 28	14 7	28
3	26 30	24 59	23 29	22 0	20 35	19 11	17 49	16 29	15 10	13 50	27
4	26 7	24 38	23 8	21 40	20 17	18 53	17 31	16 11	14 52	13 33	26
5	25 44	24 15	22 49	21 19	19 57	18 34	17 12	15 51	14 34	13 15	25
6	25 22	23 53	22 26	21 1	19 37	18 14	16 52	15 31	14 14	12 56	24
7	24 59	23 30	22 2	20 40	19 16	17 52	16 32	15 11	13 54	12 37	23
8	24 34	23 6	21 40	20 19	18 54	17 30	16 11	14 50	13 34	12 17	22
9	24 11	22 42	21 18	19 56	18 32	17 9	15 51	14 29	13 14	11 57	21
10	23 47	22 19	20 55	19 33	18 10	16 48	15 30	14 8	12 55	11 38	20
11	23 21	21 55	20 31	19 9	17 46	16 26	15 9	13 48	12 35	11 18	19
12	22 57	21 31	20 8	18 46	17 23	16 3	14 47	13 28	12 14	10 58	18
13	22 32	21 7	19 44	18 22	17 0	15 41	14 25	13 8	11 52	10 37	17
14	22 7	20 43	19 20	17 58	16 38	15 18	14 2	12 47	11 30	10 15	16
15	21 40	20 16	18 54	17 34	16 15	14 56	13 39	12 23	11 8	9 53	15
16	21 14	19 50	18 30	17 10	15 50	14 33	13 16	11 59	10 45	9 30	14
17	20 48	19 24	18 5	16 44	15 26	14 10	12 52	11 35	10 22	9 8	13
18	20 21	18 58	17 39	16 18	15 1	13 45	12 28	11 11	9 58	8 45	12
19	19 56	18 33	17 14	15 53	14 38	13 21	12 4	10 48	9 34	8 21	11
20	19 28	18 8	16 48	15 28	14 14	12 56	11 40	10 25	9 10	7 57	10
21	19 1	17 41	16 22	15 2	13 48	12 31	11 15	10 1	8 47	7 33	9
22	18 33	17 13	15 54	14 37	13 22	12 5	10 50	9 36	8 23	7 9	8
23	18 6	16 45	15 27	14 12	12 56	11 40	10 25	9 11	7 59	6 45	7
24	17 38	16 18	15 1	13 45	12 29	11 16	10 0	8 47	7 34	6 21	6
25	17 10	15 52	14 35	13 19	12 3	10 50	9 36	8 22	7 10	5 57	5
26	16 43	15 26	14 8	12 52	11 37	10 23	9 11	7 57	6 46	5 33	4
27	16 15	14 58	13 41	12 25	11 11	9 57	8 46	7 32	6 21	5 9	3
28	15 46	14 30	13 14	11 57	10 45	9 31	8 20	7 7	5 55	4 44	2
29	15 17	14 2	12 46	11 30	10 19	9 5	7 54	6 42	5 30	4 20	1
30	14 49	13 34	12 19	11 4	9 52	8 39	7 27	6 15	5 4	3 54	0
	0	1	2	3	4	5	6	7	8	9	♉

For the Latitude of London 51° 32′, the Ecliptical Obliquity being 23° 28′.

South Latitude.

	♍	0	1	2	3	4	5	6	7	8	9		
	0	14° 49′	13° 34′	12° 19′	11° 4′	9° 52′	8° 39′	7° 27′	6° 15′	5° 4′	3° 54′	30	
	1	14 20	13 7	11 52	10 38	9 25	8 12	7 0	5 49	4 38	3 28	29	
	2	13 51	12 38	11 25	10 12	8 58	7 45	6 33	5 23	4 12	3 2	28	
	3	13 22	12 10	10 57	9 44	8 31	7 18	6 6	4 57	3 46	2 35	27	
	4	12 53	11 39	10 28	9 16	8 3	6 50	5 39	4 30	3 20	2 8	26	
	5	12 24	11 10	9 58	8 47	7 35	6 22	5 12	4 3	2 53	1 41	25	
	6	11 55	10 41	9 28	8 18	7 7	5 54	4 45	3 36	2 26	1 13	24	
	7	11 26	10 13	8 59	7 49	6 38	5 26	4 17	3 8	1 59	0 45	23	N.
	8	10 57	9 44	8 30	7 20	6 9	4 58	3 50	2 40	1 31	0 16	22	
	9	10 27	9 14	8 2	6 51	5 40	4 30	3 23	2 12	1 2	0 11	21	
	10	9 58	8 45	7 34	6 22	5 11	4 2	2 50	1 44	0 33	0 39	20	
	11	9 28	8 16	7 5	5 54	4 43	3 33	2 22	1 15	0 4	1 7	19	S.
	12	9 0	7 47	6 37	5 25	4 14	3 4	1 54	0 46	0 24	1 35	18	
	13	8 29	7 18	6 8	4 56	3 45	2 35	1 26	0 17	0 53	2 2	17	
	14	7 59	6 49	5 39	4 27	3 16	2 6	0 58	0 11	1 22	2 30	16	
	15	7 30	6 20	5 9	3 58	2 48	1 37	0 29	0 40	1 51	3 0	15	
	16	7 1	5 50	4 40	3 29	2 19	1 8	0 0	1 9	2 20	3 30	14	
	17	6 30	5 20	4 10	3 0	1 51	0 40	0 29	1 38	2 50	3 59	13	
	18	6 0	4 50	3 41	2 31	1 22	0 12	0 58	2 7	3 18	4 28	12	
	19	5 30	4 20	3 11	2 1	0 52	0 17	1 27	2 36	3 46	4 57	11	
	20	5 0	3 50	2 41	1 32	0 22	0 47	1 57	3 7	4 15	5 26	10	
	21	4 30	3 20	2 11	1 2	0 7	1 17	2 26	3 36	4 46	5 56	9	
	22	4 1	2 50	1 42	0 32	0 37	1 47	2 56	4 6	5 16	6 25	8	
	23	3 31	2 20	1 12	0 2	1 7	2 17	3 26	4 36	5 45	6 55	7	
	24	3 1	1 50	0 42	0 28	1 37	2 47	3 56	5 6	6 16	7 26	6	
	25	2 31	1 20	0 12	0 58	2 7	3 17	4 27	5 36	6 46	7 57	5	
	26	2 1	0 50	0 19	1 28	2 37	3 47	4 57	6 6	7 7	8 28	4	
	27	1 30	0 20	0 49	1 58	3 7	4 16	5 27	6 36	7 47	8 59	3	
N.	28	1 1	0 9	1 19	2 28	3 37	4 46	5 58	7 6	8 17	9 29	2	
	29	0 31	0 39	1 50	2 58	4 7	5 17	6 27	7 37	8 48	10 0	1	
	30	0 0	1 10	2 19	3 28	4 38	5 48	6 59	8 8	9 19	10 31	0	
		0	1	2	3	4	5	6	7	8	9	♈	

For the Latitude of London 51° 32′, *the Ecliptical Obliquity being* 23° 28′.

SOUTH LATITUDE.

♎	0	1	2	3	4	5	6	7	8	9	
0	0° 0′	1° 10′	2° 19′	3° 28′	4° 38′	5° 48′	6° 59′	8° 8′	9° 19′	10° 31′	30
1	0 31	1 40	2 49	4 0	5 9	6 19	7 30	8 39	9 50	11 3	29
2	1 1	2 10	3 20	4 29	5 39	6 50	8 0	9 2	10 21	11 34	28
3	1 30	2 40	3 50	5 0	6 10	7 19	8 30	9 43	10 53	12 5	27
4	2 1	3 10	4 20	5 30	6 40	7 50	9 1	10 13	11 25	12 37	26
5	2 31	3 41	4 50	6 0	7 10	8 22	9 32	10 44	11 57	13 8	25
6	3 1	4 10	5 21	6 31	7 41	8 53	10 4	11 16	12 29	13 41	24
7	3 31	4 40	5 51	7 2	8 13	9 24	10 35	11 47	13 0	14 14	23
8	4 1	5 10	6 22	7 32	8 43	9 54	11 6	12 18	13 31	14 46	22
9	4 30	5 40	6 52	8 3	9 13	10 24	11 37	12 49	14 3	15 19	21
10	5 0	6 10	7 22	8 33	9 44	10 54	12 8	13 19	14 35	15 50	20
11	5 30	6 40	7 52	9 4	10 14	11 26	12 39	13 51	15 7	16 22	19
12	6 0	7 10	8 22	9 34	10 45	11 58	13 10	14 23	15 39	16 55	18
13	6 30	7 41	8 52	10 5	11 15	12 28	13 41	14 56	16 12	17 29	17
14	7 1	8 10	9 23	10 35	11 47	13 0	14 13	15 28	16 44	18 1	16
15	7 30	8 40	9 53	11 5	12 17	13 30	14 44	16 0	17 15	18 33	15
16	7 59	9 10	10 23	11 34	12 48	14 0	15 15	16 30	17 46	19 4	14
17	8 29	9 40	10 53	12 4	13 19	14 31	15 46	17 2	18 20	19 37	13
18	9 0	10 10	11 23	12 36	13 50	15 2	16 17	17 35	18 53	20 11	12
19	9 28	10 40	11 53	13 5	14 21	15 34	16 50	18 7	19 25	20 44	11
20	9 58	11 10	12 24	13 38	14 52	16 7	17 23	18 40	19 58	21 19	10
21	10 27	11 40	12 55	14 9	15 23	16 38	17 55	19 13	20 31	21 54	9
22	10 57	12 10	13 25	14 39	15 55	17 10	18 28	19 48	21 5	22 29	8
23	11 26	12 40	13 55	15 10	16 26	17 42	19 1	20 24	21 40	23 4	7
24	11 55	13 12	14 24	15 40	16 58	18 15	19 35	20 56	22 15	23 39	6
25	12 24	13 41	14 54	16 10	17 30	18 48	20 8	21 29	22 52	24 15	5
26	12 53	14 8	15 24	16 40	17 59	19 17	20 39	22 1	23 24	24 50	4
27	13 22	14 38	15 54	17 10	18 30	19 48	21 10	22 32	23 56	25 23	3
28	13 51	15 6	16 23	17 39	19 0	20 19	21 42	23 4	24 29	25 57	2
29	14 20	15 36	16 53	18 12	19 30	20 50	22 13	23 37	25 2	26 30	1
30	14 49	16 4	17 21	18 40	20 0	21 21	22 44	24 8	25 35	27 3	0
	0	1	2	3	4	5	6	7	8	9	♓

For the Latitude of London 51° 32′, *the Ecliptical Obliquity being* 23° 28′

South Latitude.

♏	0		1		2		3		4		5		6		7		8		9		
	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	
0	14	49	16	4	17	21	18	40	20	0	21	21	22	44	24	8	25	35	27	3	30
1	15	17	16	33	17	51	19	10	20	30	21	53	23	17	24	42	26	10	27	38	29
2	15	46	17	2	18	21	19	40	21	1	22	24	23	49	25	15	26	42	28	13	28
3	16	15	17	31	18	50	20	9	21	31	22	55	24	20	25	47	27	14	28	45	27
4	16	43	17	59	19	18	20	39	22	2	23	26	24	52	26	19	27	48	29	20	26
5	17	10	18	27	19	47	21	9	22	32	23	57	25	24	26	52	28	22	29	55	25
6	17	38	18	56	20	16	21	38	23	2	24	27	25	55	27	24	28	56	30	29	24
7	18	6	19	25	20	45	22	8	23	32	24	59	26	27	27	58	29	30	31	5	23
8	18	33	19	53	21	13	22	38	24	2	25	30	27	0	28	32	30	4	31	43	22
9	19	1	20	20	21	42	23	6	24	31	26	3	27	32	29	4	30	39	32	18	21
10	19	28	20	48	22	9	23	35	25	2	26	33	28	3	29	37	31	14	32	51	20
11	19	56	21	15	22	38	24	5	25	33	27	3	28	35	30	10	31	48	33	28	19
12	20	21	21	43	23	8	24	34	26	3	27	34	29	13	30	44	32	23	34	3	18
13	20	48	22	11	23	37	25	3	26	33	28	4	29	42	31	17	32	57	34	39	17
14	21	14	22	39	24	4	25	31	27	2	28	35	30	11	31	48	33	29	35	13	16
15	21	40	23	5	24	32	25	59	27	31	29	5	30	41	32	19	34	1	35	47	15
16	22	7	23	30	24	59	26	26	28	0	29	35	31	11	32	51	34	34	36	21	14
17	22	32	23	56	25	25	26	55	28	29	30	5	31	41	33	23	35	6	36	56	13
18	22	57	24	22	25	52	27	24	28	57	30	34	32	11	33	54	35	40	37	31	12
19	23	21	24	48	26	19	27	51	29	25	31	3	32	42	34	25	36	14	38	4	11
20	23	47	25	15	26	46	28	17	29	53	31	32	33	14	34	56	36	46	38	40	10
21	24	11	25	39	27	12	28	45	30	21	32	1	33	44	35	30	37	21	39	16	9
22	24	34	26	5	27	37	29	12	30	49	32	30	34	14	36	2	37	54	39	51	8
23	24	59	26	29	28	3	29	38	31	17	32	58	34	43	36	33	38	24	40	24	7
24	25	22	26	54	28	27	30	4	31	43	33	25	35	11	37	2	38	56	40	56	6
25	25	44	27	16	28	48	30	29	32	9	33	53	35	39	37	31	39	27	41	28	5
26	26	7	27	39	29	14	30	53	32	39	34	20	36	8	38	0	39	57	42	0	4
27	26	30	28	2	29	38	31	17	32	58	34	45	36	34	38	28	40	27	42	31	3
28	26	50	28	24	30	2	31	41	33	23	35	11	37	2	38	56	40	56	43	2	2
29	27	11	28	42	30	23	32	4	33	49	35	38	37	29	39	25	41	26	43	33	1
30	27	32	29	7	30	44	32	26	34	10	36	0	37	52	39	51	41	54	44	3	0
	0		1		2		3		4		5		6		7		8		9		♒

For the Latitude of London 51° 32′, the Ecliptical Obliquity being 23° 28′:

SOUTH LATITUDE.

♐	0		1		2		3		4		5		6		7		8		9		
	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	°	′	
0	27	32	29	7	30	44	32	26	34	10	36	0	37	52	39	51	41	54	44	3	30
1	27	53	29	27	31	6	32	49	34	36	36	27	38	20	40	20	42	27	44	40	29
2	28	13	29	47	31	27	33	11	34	58	36	50	38	44	40	46	42	53	45	8	28
3	28	32	30	7	31	48	33	32	35	21	37	13	39	10	41	13	43	22	45	39	27
4	28	50	30	27	32	9	33	54	35	43	37	37	39	35	41	39	43	50	46	8	26
5	29	8	30	48	32	30	34	16	36	6	38	0	40	0	42	5	44	17	46	37	25
6	29	27	31	6	32	49	34	36	36	27	38	22	40	23	42	29	44	43	47	4	24
7	29	44	31	25	33	9	34	56	36	48	38	44	40	46	42	55	45	10	47	31	23
8	30	4	31	43	33	27	35	9	37	7	39	4	41	7	43	18	45	34	47	55	22
9	30	15	31	58	33	43	35	32	37	25	39	23	41	26	43	36	45	53	48	18	21
10	30	31	32	14	34	0	35	49	37	42	39	41	41	45	43	56	46	15	48	42	20
11	30	46	32	30	34	16	36	8	38	2	40	2	42	7	44	19	46	39	49	8	19
12	31	0	32	44	34	31	36	23	38	18	40	18	42	26	44	39	46	59	49	32	18
13	31	13	32	58	34	45	36	38	38	34	40	35	42	42	44	56	47	19	49	53	17
14	31	25	33	11	34	58	36	52	38	50	40	52	43	2	45	17	47	41	50	17	16
15	31	38	33	23	35	11	37	5	39	4	41	7	43	18	45	34	47	59	50	36	15
16	31	50	33	36	35	24	37	19	39	19	41	22	43	34	45	50	48	17	50	57	14
17	32	0	33	47	35	38	37	33	39	33	41	39	43	59	46	10	48	37	51	18	13
18	32	11	33	58	35	49	37	44	39	45	41	52	44	5	46	24	48	55	51	37	12
19	32	19	34	7	35	58	37	54	39	53	42	0	44	15	46	37	49	6	51	52	11
20	32	27	34	14	36	6	38	2	40	4	42	12	44	26	46	49	49	21	52	5	10
21	32	35	34	22	36	13	38	10	40	12	42	20	44	35	46	58	49	32	52	17	9
22	32	41	34	29	36	21	38	18	40	20	42	29	44	45	47	9	49	42	52	29	8
23	32	48	34	34	36	27	38	23	40	27	42	36	44	52	47	16	49	51	52	37	7
24	32	53	34	40	36	33	38	30	40	33	42	42	44	59	47	23	49	59	52	46	6
25	32	57	34	45	36	38	38	36	40	39	42	49	45	5	47	31	50	7	52	55	5
26	33	0	34	49	36	42	38	40	40	44	42	53	45	10	47	36	50	12	53	1	4
27	33	3	34	53	36	46	38	44	40	48	42	58	45	15	47	41	50	17	53	7	3
28	33	5	34	55	36	48	38	46	40	50	43	0	45	17	47	43	50	20	53	10	2
29	33	6	34	56	36	49	38	47	40	51	43	1	45	19	47	45	50	22	53	12	1
30	33	7	34	56	36	50	38	48	40	52	43	2	45	20	47	46	50	23	53	13	0
	0		1		2		3		4		5		6		7		8		9		♑

☉ in ♈.

Time from Noon			10 ♈	11 ♉	12 ♊	1 ♋		2 ♌	3 ♍
h.	m.	s.	°	°	°	°	′	°	°
0	0	0	0	9	22	26	36	12	3
0	3	40	1	10	23	27	17	13	3
0	7	20	2	11	24	27	56	14	4
0	11	0	3	12	25	28	42	15	5
0	14	41	4	13	25	29	17	15	6
0	18	21	5	14	26	29	55	16	7
0	22	2	6	15	27	0 ♌	34	17	8
0	25	42	7	16	28	1	14	18	8
0	29	23	8	17	29	1	55	18	9
0	33	4	9	18	♋	2	33	19	10
0	36	45	10	19	1	3	14	20	11
0	40	26	11	20	1	3	54	20	12
0	44	8	12	22	2	4	33	21	13
0	47	50	13	23	3	5	12	22	14
0	51	32	14	24	4	5	52	23	15
0	55	14	15	25	5	6	30	23	15
0	58	5	16	26	6	7	9	24	16
1	2	40	17	27	6	7	50	25	17
1	6	23	18	28	7	8	30	26	18
1	10	7	19	29	8	9	9	26	19
1	13	51	20	♊	9	9	48	27	19
1	17	35	21	1	10	10	29	28	20
1	21	20	22	2	10	11	7	28	21
1	25	6	23	3	11	11	48	29	22
1	28	52	24	4	12	12	28	♍	23
1	32	38	25	5	13	13	8	1	24
1	36	25	26	6	14	13	48	1	25
1	40	12	27	7	14	14	28	2	25
1	44	0	28	7	15	15	8	3	26
1	47	48	29	8	16	15	47	4	27
1	51	37	30	9	17	16	27	4	28

☉ in ♉.

Time from Noon			10 ♉	11 ♊	12 ♋	1 ♌		2 ♍	3 ♍
h.	m.	s.	°	°	°	°	′	°	°
1	51	37	0	9	17	16	28	4	28
1	55	27	1	10	18	17	8	5	29
1	59	17	2	11	19	17	48	6	♎
2	3	8	3	12	19	18	27	7	1
2	6	59	4	13	20	19	9	8	2
2	10	51	5	14	21	19	49	9	2
2	14	44	6	15	22	20	29	9	3
2	18	37	7	16	22	21	10	10	4
2	22	31	8	17	23	21	52	11	5
2	26	25	9	18	24	22	32	11	6
2	30	20	10	19	25	23	14	12	7
2	34	16	11	20	25	23	55	13	8
2	38	13	12	21	26	24	36	14	9
2	42	10	13	22	27	25	17	15	10
2	46	8	14	23	28	25	58	15	11
2	50	7	15	24	29	26	40	16	12
2	54	7	16	25	29	27	22	17	12
2	58	7	17	26	♌	28	4	18	13
3	2	8	18	26	1	28	45	18	14
3	6	9	19	27	2	29	28	19	15
3	10	12	20	28	3	0 ♍	12	20	16
3	14	15	21	29	3	0	54	21	17
3	18	19	22	♋	4	1	36	22	18
3	22	23	23	1	5	2	20	22	19
3	26	29	24	2	6	3	1	23	20
3	30	35	25	3	7	3	45	24	21
3	34	41	26	4	7	4	28	25	22
3	38	49	27	5	8	5	11	26	23
3	42	57	28	6	9	5	54	27	24
3	47	6	29	7	10	6	29	27	25
3	51	15	30	8	11	7	21	28	25

☉ in ♊.

Time from Noon			10 ♊	11 ♋	12 ♌	1 ♍		2 ♍	3 ♎
h.	m.	s.	°	°	°	°	′	°	°
3	51	15	0	8	11	7	21	28	25
3	55	25	1	9	12	8	5	29	26
3	59	36	2	10	12	8	49	♎	27
4	3	48	3	10	13	9	33	1	28
4	8	0	4	11	14	10	16	2	29
4	12	13	5	12	15	11	2	2	♏
4	16	26	6	13	16	11	46	3	1
4	20	40	7	14	17	12	30	4	2
4	24	55	8	15	17	13	15	5	3
4	29	10	9	16	18	14	0	6	4
4	33	26	10	17	19	14	45	7	5
4	37	42	11	18	20	15	30	8	6
4	41	59	12	19	21	16	15	8	7
4	46	16	13	20	21	17	0	9	8
4	50	34	14	21	22	17	45	10	9
4	54	52	15	22	23	18	30	11	10
4	59	10	16	23	24	19	16	12	11
5	3	29	17	24	25	20	4	13	12
5	7	49	18	25	26	20	49	14	13
5	12	9	19	25	27	21	35	14	14
5	16	29	20	26	28	22	20	15	14
5	20	49	21	27	28	23	6	16	15
5	25	9	22	28	29	23	51	17	16
5	29	30	23	29	♍	24	37	18	17
5	33	51	24	♌	1	25	25	19	18
5	38	12	25	1	2	26	9	20	19
5	42	34	26	2	3	26	55	21	20
5	46	55	27	3	4	27	41	21	21
5	51	17	28	4	4	28	27	22	22
5	55	38	29	5	5	29	13	23	23
6	0	0	30	6	6	30	0	24	24

☉ in ♋.

Time from Noon			10 ♋	11 ♌	12 ♍	1 ♎		2 ♎	3 ♏
h.	m.	s.	°	°	°	°	′	°	°
6	0	0	0	6	6	0	0	24	24
6	4	22	1	7	7	0	47	25	25
6	8	43	2	8	8	1	33	26	26
6	13	5	3	9	9	2	19	27	27
6	17	26	4	10	10	3	5	27	28
6	21	48	5	11	10	3	51	28	29
6	26	9	6	12	11	4	27	29	♐
6	30	30	7	13	12	5	23	♏	1
6	34	51	8	14	13	6	9	1	2
6	39	11	9	15	14	6	55	2	3
6	43	31	10	16	15	7	40	2	4
6	47	51	11	16	16	8	26	3	4
6	52	11	12	17	16	9	12	4	5
6	56	31	13	18	17	9	58	5	6
7	0	50	14	19	18	10	41	6	7
7	5	8	15	20	19	11	28	7	8
7	9	26	16	21	20	12	14	8	9
7	13	44	17	22	21	12	59	8	10
7	18	1	18	23	22	13	46	9	11
7	22	18	19	24	22	14	30	10	12
7	26	34	20	25	23	15	15	11	13
7	30	50	21	26	24	15	59	12	14
7	35	5	22	27	25	16	45	13	15
7	39	20	23	28	26	17	30	13	16
7	43	34	24	29	27	18	15	14	17
7	47	47	25	♍	28	18	59	15	18
7	52	0	26	1	28	19	43	16	19
7	56	12	27	2	29	20	27	17	20
8	0	24	28	3	♎	21	11	18	20
8	4	35	29	4	1	21	56	18	21
8	8	45	30	5	2	22	40	19	22

9 28 14
2 15
11 43 14

9 29
2 15
11 44

☉ in ♌.

Time from Noon			10 ♌	11 ♍	12 ♎	1 ♎		2 ♏	3 ♐
h.	m.	s.	°	°	°	°	′	°	°
8	8	45	0	5	2	22	40	19	22
8	12	54	1	5	3	23	24	20	23
8	17	3	2	6	3	24	7	21	24
8	21	11	3	7	4	24	50	22	25
8	25	19	4	8	5	25	34	23	26
8	29	26	5	9	6	26	18	23	27
8	33	31	6	10	7	27	0	24	28
8	37	37	7	11	8	27	44	25	29
8	41	41	8	12	8	28	25	26	♑
8	45	45	9	13	9	29	8	27	1
8	49	48	10	14	10	29	50	27	2
8	53	51	11	15	11	0 ♏	32	28	3
8	57	52	12	16	12	1	15	29	4
9	1	53	13	17	12	1	58	♐	4
9	5	53	14	18	13	2	39	1	5
9	9	53	15	18	14	3	21	2	6
9	13	52	16	19	15	4	3	2	7
9	17	50	17	20	16	4	44	3	8
9	21	47	18	21	16	5	24	4	9
9	25	44	19	22	17	6	7	5	10
9	29	40	20	23	18	6	48	5	11
9	33	35	21	24	19	7	29	6	12
9	37	29	22	25	19	8	9	7	13
9	41	23	23	26	20	8	50	8	14
9	45	16	24	27	21	9	31	9	15
9	49	9	25	28	22	10	11	9	16
9	53	1	26	28	23	10	51	10	17
9	56	52	27	29	23	11	32	11	18
10	0	43	28	♎	24	12	12	12	19
10	4	33	29	1	25	12	53	12	20
10	8	23	30	2	26	13	33	13	20

☉ in ♍.

Time from Noon			10 ♍	11 ♎	12 ♎	1 ♏		2 ♐	3 ♑
h.	m.	s.	°	°	°	°	′	°	°
10	8	23	0	2	26	13	33	13	20
10	12	12	1	3	26	14	13	14	21
10	16	0	2	4	27	14	43	15	22
10	19	48	3	5	28	15	33	16	23
10	23	35	4	5	29	16	13	16	24
10	27	22	5	6	29	16	52	17	25
10	31	8	6	7	♏	17	32	18	26
10	34	54	7	8	1	18	13	19	27
10	38	40	8	9	2	18	51	20	28
10	42	25	9	10	2	19	31	20	29
10	46	9	10	11	3	20	11	21	♒
10	49	53	11	11	4	20	52	22	1
10	53	37	12	12	4	21	30	23	2
10	57	20	13	13	5	22	9	24	3
11	1	3	14	14	6	22	49	24	4
11	4	46	15	15	7	23	28	25	5
11	8	28	16	16	7	24	8	26	6
11	12	10	17	17	8	24	47	27	8
11	15	52	18	17	9	25	27	28	9
11	19	34	19	18	10	26	5	29	10
11	23	15	20	19	10	26	45	30	11
11	26	56	21	20	11	27	26	♑	12
11	30	37	22	21	12	28	5	1	13
11	34	18	23	22	13	28	44	2	14
11	37	58	24	23	13	29	24	3	15
11	41	39	25	23	14	0 ♐	3	4	16
11	45	19	26	24	15	0	43	5	17
11	49	0	27	25	15	1	23	5	18
11	52	40	28	26	16	2	4	6	19
11	56	20	29	26	17	2	43	7	20
12	0	0	30	27	17	3	23	8	21

☉ in ♎.

Time from Noon			10	11	12	1		2	3
			♎	♎	♏	♐		♑	♒
h.	*m.*	*s.*	°	°	°	°	′	°	°
12	0	0	0	27	17	3	23	8	21
12	3	40	1	28	18	4	4	9	22
12	7	20	2	29	19	4	45	10	24
12	11	0	3	♏	20	5	25	11	25
12	14	41	4	1	20	6	7	12	26
12	18	21	5	1	21	6	48	13	27
12	22	2	6	2	22	7	29	14	28
12	25	42	7	3	23	8	10	15	29
12	29	23	8	4	23	8	51	16	♓
12	33	4	9	5	24	9	33	17	2
12	36	45	10	6	25	10	15	18	3
12	40	26	11	6	25	10	57	19	4
12	44	8	12	7	26	11	40	20	5
12	47	50	13	8	27	12	22	21	6
12	51	32	14	9	28	13	4	22	7
12	55	14	15	10	28	13	47	23	9
12	58	57	16	11	29	14	30	24	10
13	2	40	17	11	♐	15	15	25	11
13	6	23	18	12	1	15	59	26	12
13	10	7	19	13	1	16	44	27	13
13	13	51	20	14	2	17	28	28	15
13	17	35	21	15	3	18	13	29	16
13	21	20	22	16	4	19	0	♒	17
13	25	6	23	16	4	19	44	1	18
13	28	52	24	17	5	20	31	2	20
13	32	38	25	18	6	21	19	4	21
13	36	25	26	19	7	22	6	5	22
13	40	12	27	20	7	22	54	6	23
13	44	0	28	21	8	23	42	7	25
13	47	48	29	21	9	24	31	8	26
13	51	37	30	22	10	25	20	10	27

☉ in ♏.

Time from Noon			10	11	12	1		2	3
			♏	♏	♐	♐		♒	♓
h.	*m.*	*s.*	°	°	°	°	′	°	°
13	51	37	0	22	10	25	20	10	27
13	55	27	1	23	11	26	10	11	28
13	59	17	2	24	11	27	2	12	♈
14	3	8	3	25	12	27	53	14	1
14	6	59	4	26	13	28	45	15	2
14	10	51	5	26	14	29	36	16	4
14	14	44	6	27	15	0 ♑	29	18	5
14	18	37	7	28	15	1	23	19	6
14	22	31	8	29	16	2	18	20	8
14	26	25	9	♐	17	3	16	22	9
14	30	20	10	1	18	4	11	23	10
14	34	16	11	2	19	5	9	25	11
14	38	13	12	2	20	6	7	26	13
14	42	10	13	3	20	7	6	28	14
14	46	8	14	4	21	8	6	29	15
14	50	7	15	5	22	9	8	♓	17
14	54	7	16	6	23	10	11	3	18
15	58	7	17	7	24	11	15	4	19
15	2	8	18	8	25	12	20	6	21
15	6	9	19	9	26	13	27	8	22
15	10	12	20	9	27	14	35	9	23
15	14	15	21	10	27	15	43	11	24
15	18	19	22	11	28	16	52	13	26
15	22	23	23	12	29	18	3	14	27
15	26	29	24	13	♑	19	16	16	28
15	30	35	25	14	1	20	32	17	29
15	34	41	26	15	2	21	48	19	♉
15	38	49	27	16	3	23	8	21	2
15	42	57	28	17	4	24	29	22	3
15	47	6	29	18	5	25	51	24	5
15	51	15	30	18	6	27	15	26	6

⊙ in ♐.

Time from Noon			10 ♐	11 ♐	12 ♑	1 ♑		2 ♓	3 ♉
h.	m.	s.	°	°	°	°	′	°	°
15	51	15	0	18	6	27	15	26	6
15	55	25	1	19	7	28	42	25	7
15	59	36	2	20	8	0 ♒	11	♈	9
16	3	48	3	21	9	1	42	1	10
16	7	0	4	22	10	3	16	3	11
16	12	13	5	23	11	4	53	5	12
16	16	26	6	24	12	6	32	7	14
16	20	40	7	25	13	8	13	9	15
16	24	55	8	26	14	9	57	11	16
16	29	10	9	27	16	11	44	12	17
16	33	26	10	28	17	12	34	14	18
16	37	42	11	29	18	15	24	16	20
16	41	59	12	♑	19	17	20	18	21
16	46	16	13	1	20	19	18	20	22
16	50	34	14	2	21	21	20	21	23
16	54	52	15	3	22	23	27	23	25
17	59	10	16	4	24	25	35	25	26
17	3	29	17	5	25	27	46	27	27
17	7	49	18	6	26	30	0	28	28
17	12	9	19	7	27	2 ♓	19	♉	29
17	16	29	20	8	29	4	40	2	♊
17	20	49	21	9	♒	7	2	3	1
17	25	9	22	10	1	9	26	5	2
17	29	30	23	11	3	11	54	7	3
17	33	51	24	12	4	14	24	8	5
17	38	12	25	13	5	17	0	10	6
17	42	34	26	14	7	19	33	11	7
17	46	55	27	15	8	22	6	13	8
17	51	17	28	16	10	24	40	14	9
17	55	38	29	17	11	27	30	16	10
18	0	0	30	18	13	30	0	17	11

⊙ in ♑.

Time from Noon			10 ♑	11 ♑	12 ♒	1 ♈		2 ♉	3 ♊
h.	m.	s.	°	°	°	°	′	°	°
18	0	0	0	18	13	0	0	17	11
18	4	22	1	20	14	2	37	19	13
18	8	43	2	21	16	5	19	20	14
18	13	5	3	22	17	7	55	22	15
18	17	26	4	23	19	10	29	23	16
18	21	48	5	24	20	13	2	25	17
18	26	9	6	25	22	15	36	26	18
18	30	30	7	26	23	18	6	28	19
18	34	51	8	27	25	20	34	29	20
18	39	11	9	29	27	22	59	♊	21
18	43	31	10	♒	28	25	22	1	22
18	47	51	11	1	♓	27	42	2	23
18	52	11	12	2	2	29	58	4	24
18	56	31	13	3	3	2 ♉	13	5	25
19	0	50	14	4	5	4	24	6	26
19	5	8	15	6	7	6	30	8	27
19	9	20	16	7	9	8	36	9	28
19	13	44	17	8	10	10	40	10	29
19	18	1	18	9	12	12	39	11	♋
19	22	18	19	10	14	14	37	12	1
19	26	34	20	12	16	16	28	13	2
19	30	50	21	13	18	18	17	14	3
19	35	5	22	14	19	20	3	16	4
19	39	20	23	15	21	21	48	17	5
19	43	34	24	16	23	23	29	18	6
19	47	47	25	18	25	25	9	19	7
19	52	0	26	19	27	26	45	20	8
20	56	12	27	20	28	28	18	21	9
20	0	24	28	21	♈	29	49	22	10
20	4	35	29	23	2	1 ♊	19	23	11
20	8	45	30	24	4	2	45	24	12

TABLES OF HOUSES.

☉ in ♒.

Time from Noon			10	11	12	1		2	3
			♒	♒	♈	♊		♊	♋
h.	m.	s.	°	°	°	°	′	°	°
20	8	45	0	24	4	2	45	24	12
20	12	54	1	25	6	4	9	25	12
20	17	3	2	27	7	5	32	26	13
20	21	11	3	28	9	6	53	27	14
20	25	19	4	29	11	8	12	28	15
20	29	26	5	♓	13	9	27	29	16
20	33	31	6	2	14	10	43	♋	17
20	37	37	7	3	16	11	57	1	18
20	41	41	8	4	18	13	8	2	19
20	45	45	9	6	19	14	18	3	20
20	49	38	10	7	21	15	25	3	21
20	53	51	11	8	23	16	33	4	21
20	57	52	12	9	24	17	39	5	22
21	1	53	13	11	26	18	44	6	23
21	5	53	14	12	28	19	48	7	24
21	9	53	15	13	29	20	51	8	25
21	13	52	16	15	♉	21	53	9	26
21	17	50	17	16	2	22	53	10	27
21	21	47	18	17	4	23	52	10	28
21	25	44	19	19	5	24	51	11	28
21	29	40	20	20	7	25	48	12	29
21	33	35	21	22	8	26	44	13	♌
21	37	29	22	23	10	27	40	14	1
21	41	23	23	24	11	28	34	15	2
21	45	16	24	25	13	29	29	15	3
21	49	9	25	26	14	0♋	22	16	4
21	53	1	26	28	15	1	15	17	4
21	56	52	27	29	16	2	7	18	5
22	0	43	28	♈	18	2	57	19	6
22	4	33	29	2	19	3	49	19	7
22	8	23	30	3	20	4	38	20	8

☉ in ♓

Time from Noon			10	11	12	1		2	3
			♓	♈	♉	♋		♋	♌
h.	m.	s.	°	°	°	°	′	°	°
22	8	23	0	3	20	4	38	20	8
22	12	12	1	4	21	5	28	21	8
22	16	0	2	6	23	6	16	22	9
22	19	48	3	7	24	7	5	23	10
22	23	35	4	8	25	7	53	23	11
22	27	22	5	9	26	8	42	24	12
22	31	8	6	10	28	9	29	25	13
22	34	54	7	12	29	10	16	26	14
22	38	40	8	13	♊	11	1	26	14
22	42	25	9	14	1	11	46	27	15
22	46	9	10	15	2	12	31	28	16
22	49	53	11	17	3	13	16	29	17
22	53	37	12	18	4	14	1	29	18
22	57	20	13	19	5	14	48	♌	19
23	1	3	14	20	6	15	29	1	19
23	4	46	15	21	7	16	11	2	20
23	8	28	16	23	8	16	55	2	21
23	12	10	17	24	9	17	38	3	22
23	15	52	18	25	10	18	20	4	23
23	19	34	19	26	11	19	3	5	24
23	23	15	20	27	12	19	46	5	24
23	26	56	21	29	13	20	26	6	25
23	30	37	22	♉	14	21	8	7	26
23	34	18	23	1	15	21	50	7	27
23	37	58	24	2	16	22	31	8	28
23	41	39	25	3	17	23	12	9	28
23	45	19	26	4	18	23	53	9	29
23	49	0	27	5	19	24	33	10	♍
23	52	40	28	6	20	25	15	11	1
23	56	20	29	8	21	25	56	12	2
24	0	0	30	9	22	26	36	12	3

FINIS.

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